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المراجعة رقم (1)

الترم الثاني



Concept 3.1 Biosphere and Hydrosphere Interactions

1

Summary of

Concept 1



Earth's Systems

- Scientists divided the Earth into **four** main systems (spheres).

1 Biosphere:

- It is the system that includes all living organisms on Earth.

Examples:

- Humans
- Animals
- Plants
- Birds
- Fish
- Insects
- Microorganisms



The word "**Bio**" means "**Life**".

2 Atmosphere:

- It is the system that includes all the gases that surround the Earth.

Examples:

- Oxygen gas
- Carbon dioxide gas
- Water vapor
- Nitrogen gas



The word "**Atmos**" means "**Vapor**".

3 Hydrosphere:

- It is the system that includes all of the water on, under, and above the Earth's surface.

Examples:

- Oceans
- Seas
- Rivers
- Groundwater
- Glaciers



The word "**Hydro**" means "**Water**".

4 Geosphere "Lithosphere":

- It is the system that includes rocks, sand, soil, and minerals.

Examples:

- Rocks, sand, and soil on Earth
- Molten rocks and minerals inside Earth
- Landforms (mountains – canyons – valleys – dunes)



The word "**Geo**" means "**Earth**".

Biome

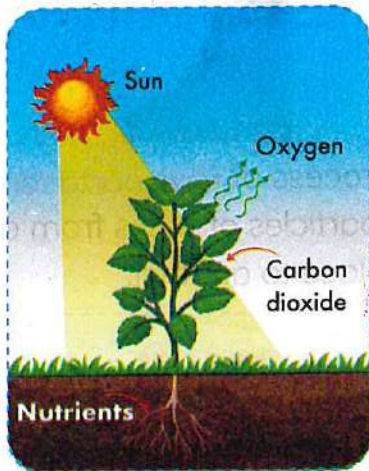
Biome

It is a large area of the world that has similar soil, climate, animals, and plants (wildlife).

Examples:

- Deserts
- Forests
- Rainforests
- Grasslands
- Wetlands

Earth's Systems Interactions



During Photosynthesis

Biosphere is interacting with atmosphere:

Plants take in carbon dioxide from the air.

Atmosphere interacting with geosphere:

Plants take nutrients from the soil.

An interaction between hydrosphere and geosphere:

Examples:

Erosion of rocks by water



Lake formation



Biosphere interacting with hydrosphere:

Examples:

- Humans and animals drink water to survive.
- Plants need water to make their own food.
- Some plants and animals live in water.

Uses of Water

- Transportation
- Manufacturing
- Traveling
- Cleaning
- Bathing
- Recreation

Water Impacts



1 How do living organisms use water?

» All living organisms need water to grow and survive.

2 How does water affect nonliving things?

» Water has an impact on the Earth's surface through two processes:

Weathering



It is the process of **breaking down** of rocks into smaller particles.



Erosion



It is the process of **transportation** of small particles of rocks from a place to another.

The Amount of Water on Earth

- Nearly **three-quarters (71%)** of the Earth is covered by water.
- Salt water forms about **96.5%** of the water on Earth.
- Fresh water forms **3.5%** of the water on Earth.
- Water is everywhere, in lakes, rivers, seas, oceans, and underground.
- The total amount of water on Earth **does not change**, even if its state changes.
- We cannot make new water, but we can recycle it.

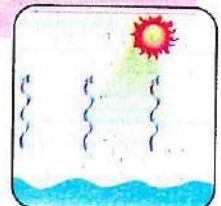
Water in bodies of water on Earth can change from a liquid state into:



A solid state (ice) by **freezing** in extreme cold weather.



A gaseous state (water vapor) by **evaporation** in extreme hot weather.



Bodies of Water

Body of Water	Definition
Lake Most lakes contain fresh water. Some lakes contain salt water.	It is a large body of water that is surrounded by land.
River (Fresh water)	It is a body of water that flows from an area of higher place to an area of lower place in a definite path.
Groundwater (Fresh water)	It is the water that lies under the Earth's surface due to the leakage of water into the Earth through a layer of porous rocks.
Oceans and Seas (Salt water)	They are very large bodies of water that always contain salt water.

Species in Aquatic Ecosystems

P.O.C	Ponds	Streams	Oceans and Seas
Type of Water	Fresh water	Fresh water	Salt water
Water Movement	Still water	Running water (Cool and flows fast)	Constantly moving in the form of waves
Species	• Water lilies • Some worms • Salamanders • Frogs	• Catfish • Salmon (Trout)	• Kelps • Dolphins • Starfish • Flounder fish (Moses fish)

Aquatic Ecosystems

- Aquatic ecosystems include **saltwater ecosystems** and **freshwater ecosystems**

1 Saltwater Ecosystems

(Oceans and Seas)

Shallow Areas

- These areas contain **coral reefs** and **intertidal zones**.

• Intertidal Zone

It is the area along the coast that disappears underwater at the high tide and appears at the low tide.

Deepest Areas

- These areas are called **abyssal zones**.

• Abyssal Zones

They are very deep areas in oceans where sunlight cannot reach them.

2 Freshwater Ecosystems

Still Water

(Ponds and Lakes)

- In many ponds and lakes, the water is present all year.
- Some other ponds and lakes dry up in the hot summer months.

Flowing Water

(Streams and rivers)

- Streams are small bodies of flowing water.
- Many different plants and animals live in moving water.

Lakes may contain salt water or fresh water.

Examples of Saltwater Lakes:

- Lake **Bardawil** in Egypt
- Lake **Assal** in Djibouti, which has high concentration of natural salts, so:
 - Fish** can't live in it.
 - There're few **plants** that grow in it.
 - Many types of bacteria live in it.

Examples of Freshwater Lakes:

- Lake **Nasser** in Egypt

2

Definitions of Concept 1

Geosphere	- It is the Earth's system that includes rocks, sand, and soil.
Atmosphere	It is the Earth's system that consists of a mixture of different gases surrounding the Earth, such as oxygen, nitrogen, and carbon dioxide.
Biosphere	It's the Earth's system that includes all living organisms, such as microorganisms, plants, animals, and humans.
Hydrosphere	It's the Earth's system that includes all fresh water and salt water on Earth.
Weathering	It is the process of breaking down of rocks into smaller particles by rain, wind, or temperature.
Erosion	It is the process of transportation of small particles of rocks to another place by water or wind.
Oceans and Seas	They are very large bodies of water that contain salt water.
Lake	It is a large body of water that is surrounded by land.
River	It is a body of water that contains fresh water and it always flows from an area of a higher place to an area of a lower place.
Groundwater	It is the fresh water stored under the Earth's surface between the cracks and spaces of porous rocks.
Biome	It is a large area of the world that has similar soil, climate, animals, and plants (wildlife).
Intertidal zone	It is the area along the coast that disappears underwater at the high tide and appears at the low tide.
Abyssal zones	They are very deep and dark areas in oceans where sunlight cannot reach them.
Salt water	It is a type of water which forms about 96.5% of water on Earth.
Fresh water	It is a type of water which forms 3.5 % of water on Earth.

3

Give Reasons For...

Concept 1

1 Water is important for all plants on Earth.

- Because plants need water to make their food through the photosynthesis process.

2 Water affects nonliving things, such as rocks.

- Because water causes weathering and erosion of rocks.

3 Plants are among the renewable resources on Earth.

- Because plants can be planted from seeds that grow up and form new plants.

4 Our planet looks like a blue marble from space.

- Because nearly three-quarters of the Earth's surface is covered with water.

5 The total amount of water on Earth does not change.

- Due to the water cycle, water in bodies of water evaporates, condenses to form clouds, and then returns to the Earth's surface as rain.

6 Scientists name each of the four Earth's systems using the word "sphere".

- Because the shape of Earth is very close to a sphere.

7 The hiding of worms inside the soil is an example of an interaction between two of Earth's spheres.

- Because worms are a part of the biosphere and soil is a part of the geosphere.

8 Respiration process in humans is one of the examples for interactions between two of Earth's systems.

- Because humans belong to the biosphere, and they take oxygen and release carbon dioxide during respiration from the atmosphere.

9 There're no plants in abyssal zones.

- Because abyssal zones are very deep, so sunlight can't reach them.

10 There're no fish that can live in Lake Assal.

- Because Lake Assal contains a high concentration of natural salts.

4

What Happens...?

Concept 1

- 1 To the intertidal zones during high tides?
 - Intertidal zones disappear.
- 2 To the intertidal zones during low tides?
 - Intertidal zones appear.
- 3 To the water of a lake when the weather gets extremely hot?
 - Water evaporates and turns into water vapor.
- 4 To the water of a lake when the weather gets extremely cold?
 - Water freezes and turns into ice.
- 5 To the biosphere when there's no hydrosphere on the Earth?
 - The biosphere disappears.

Concept 3.2 Water as a Valuable Natural Resource

1 Summary of Concept 2

- There are many **natural resources** on Earth, such as **water**, **plants**, and **metals**.
- Most of the water on Earth is **salt water**.
- We must **conserve** fresh water and protect it from **pollution**.

Sources of Water

Salt Water	Fresh Water		Mixture of Salt and Fresh Water
• Oceans • Seas • Some lakes	• Rivers • Glaciers • Wetlands	• Streams • Groundwater • Most lakes	• Estuaries

Uses of Water

» In Egypt, water can be used in many purposes, such as:

- Generating electricity (in Aswan High Dam)
- Agriculture

» Around the world, many people work on the water by:

- Fishing
- Transporting goods

Risks that Threaten Fresh Water

1 Scarcity of fresh water



The scarcity of fresh water threatens the survival of living organisms.

2 Poor quality of fresh water



The poor quality of fresh water leads to the death or extinction of some species of fish and amphibians.

Bodies of Water

Body of Water	Type of Water	Location	Other Information
Rivers 	Fresh water	• Start in: mountains as streams. • End in: seas, or larger rivers.	
Lakes 	• Most have fresh water. • Some have salt water.	They are formed when water is collected in low-lying areas.	A lake is a large body of water surrounded by land.
Wetlands 	Fresh water	A land that is partially covered with water.	Types of wetlands: • Swamps (marches) • Ponds (bogs)
Estuaries 	A mixture of fresh water and salt water	An estuary is formed when a river meets an ocean or a sea.	Estuaries are homes to thousands of plants and animals.
Groundwater 	Fresh water	It is the water stored in the cracks and spaces of underground rocks.	
Oceans 	Salt water	They are large bodies of water that surround the continents.	• All oceans are connected to each other. • The ocean's floor has mountains, plains, and plateaus.



Tributaries: They are small bodies of water, such as small creeks or streams, that flow into larger rivers.

Watershed: It is an area of land where all the water from different sources flows towards a common location.

Tributaries

Flow in

Big rivers

Flow in

Larger bodies of water

(Small creeks or streams)

(Bays, seas, or oceans)

- Rivers start **upstream** and end **downstream**.
- What happens upstream will affect the bodies of water downstream.

The Effect of Rain on a Body of Water

If

There is more rainfall than a river or a stream can handle.

Then

The water level will **increase**, causing **flooding**.



There is too little rainfall on a river or a stream.

The water level will **decrease**, causing **drought**.



- Watershed maps can help scientists understand how bodies of water interact with each other.

Scenario	Result
If a factory is established near a tributary,	This affects the water quality, where it causes water pollution of other bodies of water connected to this tributary.
If a farm near a tributary uses chemical fertilizers,	
If wind blows waste from a trash dump into the water of a tributary,	
If dams are built across a tributary,	This affects (changes) the water amount in other tributaries connected to this tributary.

1 Preservation of resources

- It means restricting access to or use of natural resources.

Examples of resources preservation

1 Ras Mohammed Protectorate
(In South Sinai)

2 Wadi Al-Hitan Protectorate
(In Fayoum)

Examples of the results of (depletion) of natural resources more quickly than they can be replaced

1 **Overfishing**
(Causes the decrease of the number of fish in oceans and seas)

2 **Overusing groundwater**
(Causes running out of the groundwater that leads to the drying up of wells)

2 Sustainability

- It means using resources in a way that does not negatively affect the future supply of these resources.



Sustainable Situation

Cows are placed in one large area of grass.

- The grass will grow back in other areas.
- Cows will still have more food.



Unsustainable Situation

Cows are placed in many small areas of grass.

- The grass will disappear in these small areas.
- Cows will be hungry.

The resources sustainability is affected by:

Overpopulation

Pollution

Overusing the resources

Unequal distribution of resources

Recycling Water

- Solar energy drives the water cycle in nature.
- Humans can recycle wastewater and reuse it in many purposes.



The Water Cycle

Wastewater:

It is the water that has already been used in homes and different industries.

Recycling water:

It is the process of removing waste materials from water.

Wastewater engineers

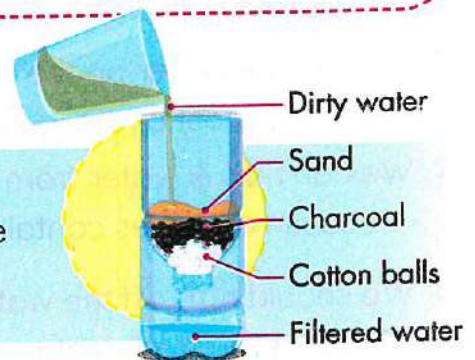
- They are specialized scientists who work in water treatment plants, such as Bahr Al-Baqar wastewater treatment plant in Egypt.

Roles of Wastewater Engineers in Recycling Wastewater

- 1 They decide where to build water treatment facilities.
- 2 They check the water quality by checking the amounts of pollutants in the treated water.
- 3 They test the treated water to make sure it is safe to use before it is released into rivers and lakes.
- 4 They design ways to protect a community from floods.
- 5 They calculate the amount of drinking water that a community needs.

Filter model:

It helps us remove harmful materials from the polluted water.



2 Definitions of Concept 2

Water	It is the basic liquid matter that all living organisms need to survive.
Watershed	It is an area of land where all the water from different sources flows towards a common location.
Tributaries	They are small bodies of water, such as small creeks or streams that flow into bigger rivers.
Wetland	It is an area that is partially covered with water.
Dam	It is a building built across a river to control the flow of water by holding water behind it.
Preservation	- It means restricting access to or use of natural resources. - It means preventing the use or development of natural resources in specific areas.
Sustainability	It means managing the use of natural resources without affecting their amount in future negatively.
Wastewater	It is the water that has already been used in homes and different industries.
Wastewater engineers	They are scientists who work in water treatment plants.
Recycling water	It is the process of removing waste materials from water.

3 Give Reasons For... Concept 2

- 1 **Most of the water on the Earth's hydrosphere is undrinkable.**
 - Because most of the water on the Earth's surface is salt water.
- 2 **We can't drink water from estuaries.**
 - Because estuaries contain a mixture of fresh water and salt water.
- 3 **We should turn off the water while brushing our teeth and washing dishes.**
 - To conserve fresh water.

- 4 **The water of an estuary is a mixture of salt water and fresh water.**
 - Because it is formed when the fresh water of a river meets the salt water of an ocean or a sea.
- 5 **The poor quality of water has a dangerous effect on all living organisms.**
 - Because the poor quality of fresh water causes the death or excitation of some species of fish and amphibians living in this water.
- 6 **Watershed maps are important.**
 - Because watershed maps help scientists understand how bodies of water interact with each other.
- 7 **Farms near tributaries may cause water pollution.**
 - Because the waste of these farms is carried by the water of tributaries to other bodies of water connected to them.
- 8 **There are many things that affect the sustainability of resources.**
 - Because resources sustainability is affected by overpopulation, pollution, or unequal distribution of resources.
- 9 **Placing cows in a big area of grass is a sustainable situation.**
 - Because the grass will grow back in other areas, so the cows will still have more food.
- 10 **Placing cows in many small areas of grass is an unsustainable situation.**
 - Because the cows will eat all the grass before the new grass grows back, which makes the grass disappear in these areas, and the cows will be hungry.
- 11 **Protected areas are established in some places.**
 - To preserve natural resources from being depleted.
- 12 **Humans create many methods to recycle wastewater.**
 - To reuse water for many purposes.
- 13 **Wastewater engineers test the treated water before the water is released in rivers and lakes.**
 - To make sure that the water is safe to be used.

4

What Happens If...?

Concept 2

- 1 **The water of a river meets the water of a sea?**
 - An estuary is formed.
- 2 **People don't conserve fresh water?**
 - We can't find fresh water to drink.
- 3 **Water is collected in a low-lying area?**
 - A lake is formed.
- 4 **There is a lot of rainfall on a river?**
 - The water level will rise in this river, causing flooding.
- 5 **There's too little rainfall on a river?**
 - The water level in this river decreases, causing drought.
- 6 **A factory is established near a tributary?**
 - The waste of the factory is carried by the water to downstream areas.
- 7 **We burn huge amounts of fossil fuels, such as coal and oil?**
 - It causes water and soil pollution, which causes the death of many living organisms.
- 8 **People use water from wells at a faster rate than it is replaced by rain?**
 - The groundwater may run out, causing wells to dry up.
- 9 **We cut down trees in a fast rate?**
 - It may lead to deforestation, which increases the soil erosion by water and wind.
- 10 **The quality of fresh water becomes poor?**
 - It causes the death or excitation of some species of fish and amphibians living in this water.
- 11 **You mix clear water with a small amount of mud?**
 - The water becomes dirty.
- 12 **A farm near a tributary uses chemical fertilizers?**
 - The waste of the farm will be carried by the tributary water to other bodies of water connected to it, causing water pollution.

Concept 4.1 Effects of Gravity

1

Summary of

Concept 1

Gravity is the force of pulling (attraction) between objects that have **mass**.

It is an invisible force that acts on all objects on or near Earth.

Gravity

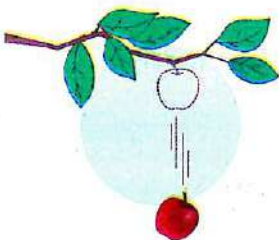
If there is no gravity, we will float like astronauts into space.

Gravity changes the direction of moving objects.

Examples of Gravity Forces

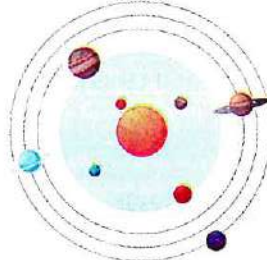
1. The Earth's Gravity

It pulls objects with mass down toward the center of the Earth.



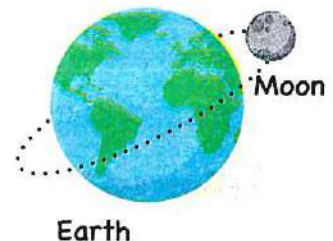
2. The Sun's Gravity

It keeps the planets in fixed orbits around the Sun.



3. The Moon's Gravity

It affects the ocean tides.



Factors Affecting Gravity between Two Objects

1

The mass of the two objects

(Gravity increases as the mass of the objects increases, and vice versa.)

2

The distance between the two objects

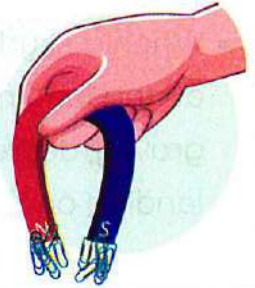
(Gravity increases as the distance between the two objects decreases, and vice versa.)

Force: It is a **pull** or **push** applied to an object to make it move.

Types of Forces

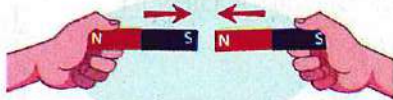
1 Magnetism

- It is the force of **attraction** or **repulsion** between two magnets or between a magnet and some objects.
- Magnets have an **invisible** force that cannot be seen, known as magnetism.



The attraction force of the magnet (Pulling Force)

- 1 A magnet pulls another magnet.



- 2 A magnet attracts some metal objects made of iron, cobalt, and nickel.



The repulsion force of the magnet (Pushing Force)

A magnet pushes (repels) another magnet.



2 Friction

- It is a force that opposes the motion of a body across a solid surface or through a gas or liquid.



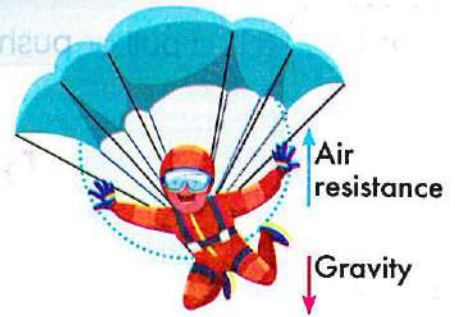
1 It arises between two objects touching each other.

2 It acts in the **opposite** direction of the object's motion.

3 It slows down the object's movement.

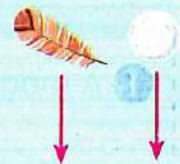
3 Air Resistance

- It is a type of friction force.
- It is a force that **opposes** the movement of an object as it passes through the air.
- When a skydiver opens his parachute during landing, air resistance acts against gravity, decreasing the speed of his landing on Earth.



If there is no air resistance:

- All bodies will reach the ground at the same time because the force of gravity is constant and acts on all bodies in the same way.



4 Wind Force

- Wind pushes the blades of a wind turbine, causing their movement.



Solar System

- » Our solar system consists of the Sun and eight planets that revolve around it.
- » Each planet revolves around the Sun in a fixed path called an orbit, which has an elliptical (oval) shape.
- » **Nicolaus Copernicus** stated that Earth revolves around the Sun.
- » Earth revolves around the Sun at a speed that nearly equals **107,000** km per hour.



2

Definitions of Concept 1

Gravity	• It is the force that pulls objects with mass toward the center of the Earth. • It is the force of attraction that exists between objects that have mass.
Force	It's a pull or a push that is applied to an object.
Motion	It is a change in the position of an object compared to another object.
Magnetism	It's the force of attraction or repulsion between two magnets or between a magnet and some objects.
Moon	It is a celestial body that orbits the Earth in a fixed orbit.
Friction	It's a force that opposes the motion of a body across a solid surface or through a gas or liquid.
Air resistance	It's a type of friction force that opposes the movement of an object as it passes through the air.
Law of Motion	The force of gravity is constant and acts on all objects in the same way.

3

Give Reasons For...

Concept 1

- 1 **The moon is attracted to the Earth.**
 - Due to the gravitational force of the Earth.
- 2 **Astronauts seem to float into space.**
 - Because there is no gravity in space.
- 3 **Paperclips are pulled toward a magnet.**
 - Due to the pulling force of the magnet.
- 4 **Air resistance affects the movement of an object that falls from a height.**
 - Because air resistance pulls objects backward against the force of gravity, slowing down the movements of objects.
- 5 **The force of gravity has an important role in the solar system.**
 - Because the Sun's gravity keeps the planets revolving in fixed orbits around the Sun.
- 6 **The gravity between two objects depends on the distance between them.**
 - As the distance between two objects increases, the gravity between them decreases, and vice versa.
- 7 **Earth's gravity is greater than the moon's gravity.**
 - Because Earth has a greater mass than the moon.
- 8 **The bike stops after a while when you stop pedaling.**
 - Due to the friction between the tires and the ground, the bike slows down until it stops.
- 9 **The skydiver opens his parachute during landing.**
 - To increase air resistance to the parachute and slow down his drop.
- 10 **The Sun is considered the center of the solar system.**
 - Because the Sun has the greatest gravity in the solar system.
- 11 **You always land on the ground when you jump up.**
 - Because the gravity pulls you toward the Earth's center.
- 12 **Planets revolve around the Sun in fixed orbits.**
 - Due to the gravity around the Sun.

4

What Happens...?

Concept 1

- 1 **If the distance between the Earth and the moon increases to twice?**
 - The gravity between the Earth and the moon decreases, and the moon might float into space.
- 2 **If the mass of the moon becomes twice its real mass?**
 - The gravity between the moon and the Earth increases, so the moon might crash into the Earth.
- 3 **To the moon if there's no gravity between the moon and the Earth?**
 - The moon might float off into space.
- 4 **If the mass of the moon decreases to half?**
 - The gravity between the Earth and the moon decreases, and the moon might float into space.
- 5 **To the ball when it is thrown up into the air?**
 - Gravity pulls it down, changing its direction.
- 6 **To the planets if the Sun has no gravity?**
 - The planets float off into space and leave their orbits around the Sun.
- 7 **If a magnet is placed near some paperclips?**
 - The magnet attracts the paperclips.
- 8 **If a skydiver opens his parachute during landing?**
 - Air resistance increases, so the speed of his drop decreases.
- 9 **If a metal ball and a feather fall down from a tower?**
 - The metal ball reaches the ground first.

Concept 4.2 Patterns of Motion in the Sky

1 Summary of Concept 2

Rotation

It is the spinning of an object on its axis.

Revolution

It is the orbiting of an object around another object.

Cycle

It is a series of events that are repeated in the same order.

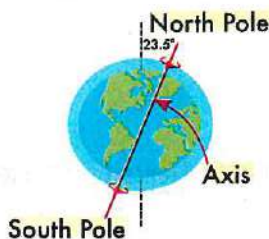
Earth's axis

It is an imaginary line passing through the North Pole and South Pole of Earth.

Earth has two motions:

1 Earth rotates around its axis. (Takes one day)

- Earth rotates counterclockwise on its **vertical axis** at a very high speed.
- Earth is slightly **tilted** on its axis, where the angle of tilt changes throughout the year.

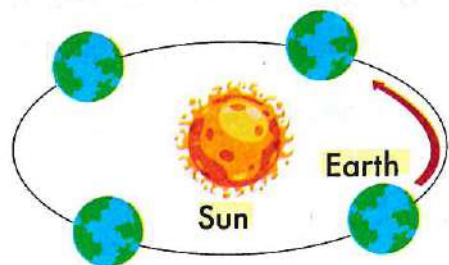


Earth's rotation on its axis makes:

- 1 The cycle of day and night occur.
- 2 The Sun, planets, and stars appear to move across the sky.
- 3 Shadows of objects move throughout the day.

2 Earth revolves around the Sun in an orbit. (Takes one year)

- Earth's path around the Sun is **elliptical (oval)**.



Earth's revolution around the Sun causes:

- The cycle of four seasons.

NOTE:

- We can't feel the Earth's spinning on its axis, as we move at the same speed as the Earth's rotation on its axis.

Shadow:

- » You can observe shadows of objects moving throughout the day.
- » The factors that affect the length and angle of a shadow:
 - The position of the Sun.
 - The amount of sunlight that reaches the Earth during different seasons.

	In the early morning or in late afternoon	At noon
The Sun's position	The Sun is low in the sky (in the east or west).	The Sun is high above us in the sky.
The length of the formed shadow	An object has the longest shadow.  Morning  Afternoon	An object has the shortest shadow.  Noon

Universe

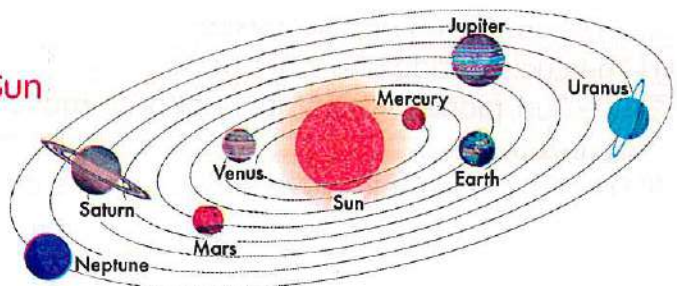
- » It is the wide space that contains celestial objects, such as galaxies, stars, planets, moons, comets, meteors, and even human-made satellites, like International Space Station..., etc.

Galaxy

- » It is a group of stars, planets, and gases that are held together by gravity.

Solar System

- » The solar system includes the **Sun** and **eight planets** that revolve around the Sun in fixed orbits.
- » Planets rotate on their axes in different speeds.
- » Jupiter is the **fastest-rotating planet** around its axis in the solar system.



Stars

1

Stars are giant spheres of superhot gases made of mostly **hydrogen** and **helium** gases.

2

Stars appear to move across the night sky due to the rotation of the Earth on its axis.

3

Some stars are larger than our Sun, while others are smaller.

The Sun

1

- The Sun is a **medium-sized star**.
- The Sun is the only star in our solar system.

2

The Sun is the **center** of the solar system.

3

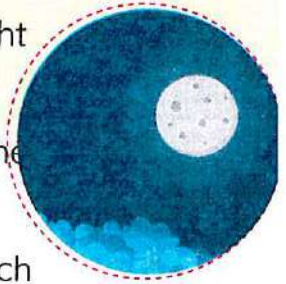
The Sun provides the Earth with **heat** and **light** energies.

Sunshine

- » The cities in the east, such as Marsa Alam, see the sunrise before the cities in the west, such as Siwa.

Moon

- » The moon is a dark celestial body that seems to be bright as it reflects the sunlight that falls on it.
- » The moon phases change as the moon revolves around the Earth.
- » The moon makes a complete cycle around the Earth each lunar month.



Guidelines to Help Students

If the question says:

The moon's phase will be:

The moon appears fully illuminated. (It appears as a completely bright circle.)	Full Moon
The moon appears completely dark.	New Moon
One half is illuminated + the other half is darkened.	Quarter
The edge of the moon's face appears illuminated. (The bright part is less than the dark one.)	Crescent
The bright part is greater than the dark one.	Gibbous

The moon phases during the lunar month "Hijri month":

Moon Phase	Description
① First Crescent 	- The edge of the moon's face is illuminated (bright) where its size increases gradually with time. - This phase is the first phase of the moon phases.
② First Quarter 	- One half of the moon's face is illuminated. - The other half of the moon's face is darkened.
③ First Gibbous 	- The bright illuminated end part of the moon's face increases gradually. - The line separating the illuminated part and the darkened part appears curved.
④ Full Moon 	- The apparent face of the moon that faces the Earth is fully illuminated. - This phase appears in the middle of the lunar month. (Where Earth lies between the Sun and the moon)
⑤ Second Gibbous 	- The illuminated part of the moon's face decreases gradually. - The line separating the darkened part and the illuminated part appears curved.
⑥ Second Quarter 	- One half of the moon's face is darkened. - The other half of the moon's face is illuminated.
⑦ Second Crescent 	The edge of the moon's face is an illuminated crescent.
⑧ New Moon 	- The apparent face of the moon that faces the Earth is fully darkened. - This phase appears on the last day of the lunar month. (Where the moon lies between the Sun and Earth)

Constellations

Constellation

- It is a group of stars that looks like it forms a pattern of a certain shape in the sky.

Example: The Constellation Orion

- The ancient Greeks gave it this name relative to a **mythical hunter**.



Scenario	Result
The positions of stars don't change, but they seem to move across the night sky.	Earth's rotation on its axis
- Constellations appear at different locations in the sky during different times of the year. - So, we can see different constellations in winter than in summer.	Earth's revolution around the Sun
Every night, new stars appear in the sky from the east.	Earth's revolution around the Sun
Some constellation become invisible to us although they still exist in their location.	Earth's revolution around the Sun

NOTE:

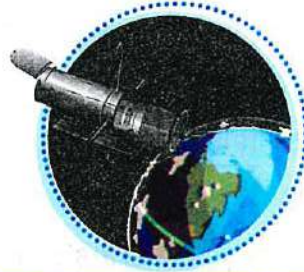
- The location of constellations near the North and South Poles changes a little bit throughout the year, as the stars close to these poles move slightly in the sky.

Using Technology to Study the Universe

» Technology helps us invent some tools, such as:



Galileo Binoculars



Hubble Telescope

Importance of Binoculars and Telescopes

They help us take a closer look at more distant objects in more details, such as:

- | | |
|---------------------------|----------------------------------|
| ① The surface of the moon | ② Asteroids |
| ③ Our neighboring planets | ④ Stars in and out of our galaxy |

Planetarium

» It is a place where we can see images of stars, planets, constellations, and other celestial bodies on its dome ceiling.

How the Planetarium Works

- ① A **projector** that displays images on its ceiling that looks like a **dome**.
- ② **Special computer programs** are used to show pictures of:
 - What the sky looks like during certain times of the month or year.
 - What the sky looked like many years ago.



Copernicus

- He proved that the Sun is the center of the solar system.

2

Definitions of Concept 2

Earth's axis	It's an imaginary line that passes through the two poles of Earth.
Earth's rotation	It is the spinning of the Earth on its axis once every 24 hours.
Earth's revolution	It is the orbiting of the Earth around the Sun.
Cycle	It is a series of events that are repeated in the same order.
Solar system	It's a system that includes the Sun and eight planets that revolve around the Sun in fixed orbits.
Jupiter	It is the fastest-rotating planet on its axis in the solar system.
Constellation	It is a group of stars that forms a pattern in the sky.
Full Moon phase	It's a moon phase that appears in the middle of the lunar month, in which the moon appears as a completely bright circle.
Crescent phase	It is the first phase of the moon phases, where only the edge of the moon face is illuminated.
New Moon phase	It's a moon phase that appears on the last day of the lunar month, in which the moon is completely dark.
Planets	They're dark celestial bodies that revolve around the Sun in fixed orbits.
The Sun	• It's a medium-sized star. • It is the only star in the solar system. • It is the center of the solar system.
Stars	They are giant spheres of superhot gases; most of them are hydrogen and helium.
Galaxy	It's a group of stars and other celestial objects held together by gravity.
Universe	It's a wide space that contains celestial objects, such as stars, galaxies, comets, meteors, and human-made satellites.
Atmosphere	It is a protective layer around Earth that allows some light waves to pass through while blocking some other light waves.
Planetarium	It is a place where we can see images of stars, planets, constellations, and other celestial bodies.

3**Give Reasons For...****Concept 2**

- 1 **The day and night phenomenon occurs.**
 - Due to the rotation of the Earth on its axis.
- 2 **The Sun appears to move across the sky throughout the day.**
 - Due to the rotation of the Earth around its axis.
- 3 **The four seasons cycle occurs.**
 - Due to the Earth's revolution around the Sun.
- 4 **Sunrise and sunset times are different each day on Earth.**
 - Due to the Earth's elliptical orbits and the tilt of the Earth on its axis.
- 5 **The position of the Sun changes in the sky throughout the day.**
 - Due to the Earth's rotation around its axis.
- 6 **The length of the shadow of an object changes throughout the day.**
 - Because the position of the Sun changes in the sky throughout the day as the Earth rotates on its axis.
- 7 **Although Earth rotates on its axis, we don't feel its movement.**
 - Because we are moving at the same speed as Earth's rotation on its axis.
- 8 **The moon has different phases during the lunar month.**
 - Due to the revolution of the moon around the Earth, and the revolution of both of them around the Sun.
- 9 **Every night, new stars appear in the sky from the east.**
 - Due to the revolution of the Earth around the Sun.
- 10 **The moon is a dark body, but we see it shiny at night.**
 - Because the moon reflects the sunlight falling on it.
- 11 **Stars seem bright in the night sky.**
 - Because they are made of hot gases.

Final Revision

- 12 **The Sun looks much larger to us than other stars.**
 - Because the Sun is nearer to us than other stars.
- 13 **Some telescopes on the Earth's surface cannot observe very distant celestial bodies.**
 - Due to the presence of the atmosphere that allows some light waves only to pass to Earth and block other light waves.
- 14 **Astronauts cannot be sent to study stars or other celestial bodies.**
 - Because the universe is so big, and these celestial bodies are just too far away.

4

What Happens If...?

Concept 2

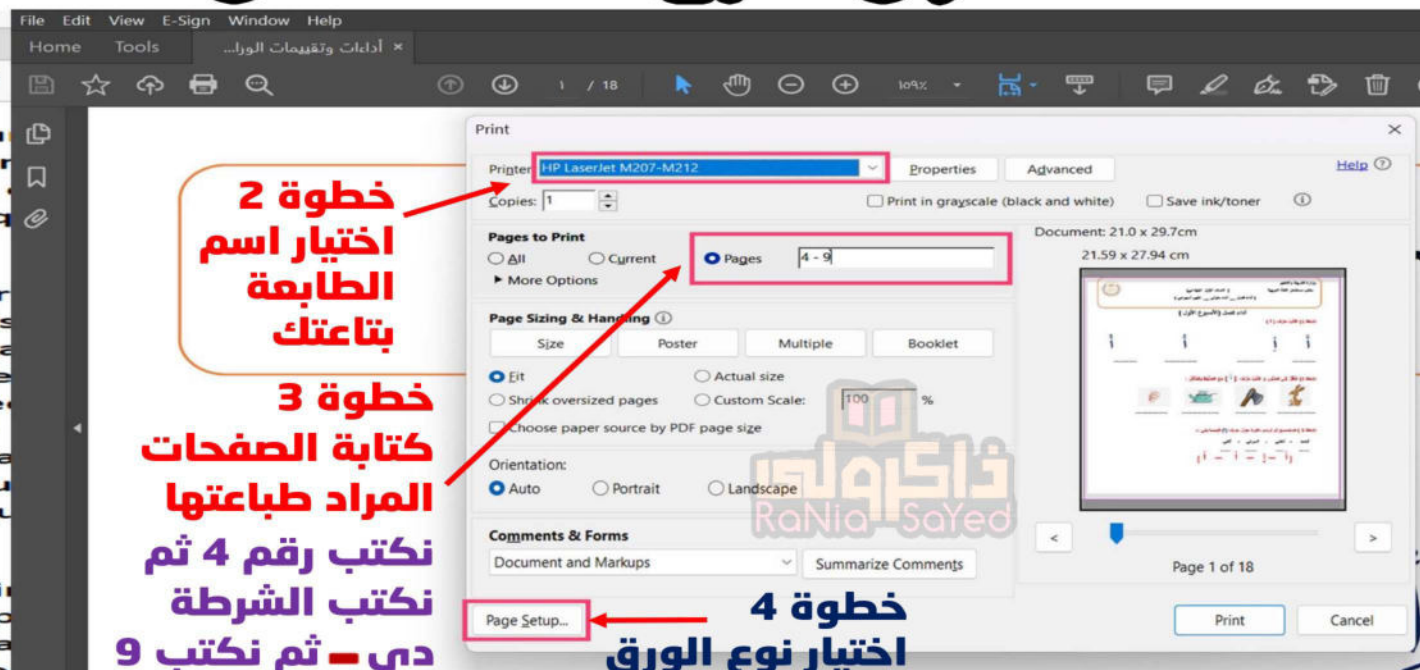
- 1 **The Earth rotates on its axis?**
 - The cycle of day and night occurs.
- 2 **The Earth stops spinning on its axis?**
 - The cycle of day and night does not occur.
- 3 **Hydrogen and helium gases are burned inside the Sun?**
 - They produce heat and light.
- 4 **Half of the Earth faces the Sun?**
 - This half of Earth has day.
- 5 **The Earth rotates in a clockwise direction on its axis?**
 - The Sun and other stars seem to move from west to east.
- 6 **The Earth revolves around the Sun?**
 - The cycle of four seasons occurs.
- 7 **The sunlight falls on the moon's surface?**
 - The moon reflects the sunlight on Earth, so it appears bright.
- 8 **The sunlight falls on a tree in the morning and at noon?**
 - The tree has the longest shadow in the morning, but it has the shortest shadow at noon.

كيفية طباعة صفحات معينة من ملف معين

مثلا ازاي نطبع الصفحات من صفحة 4 الى صفحة 9



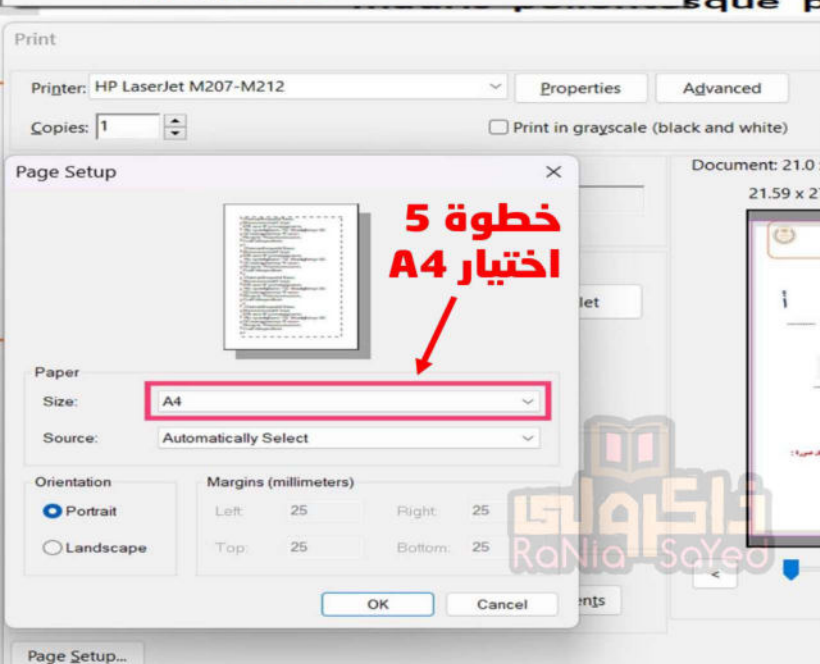
خطوة 1



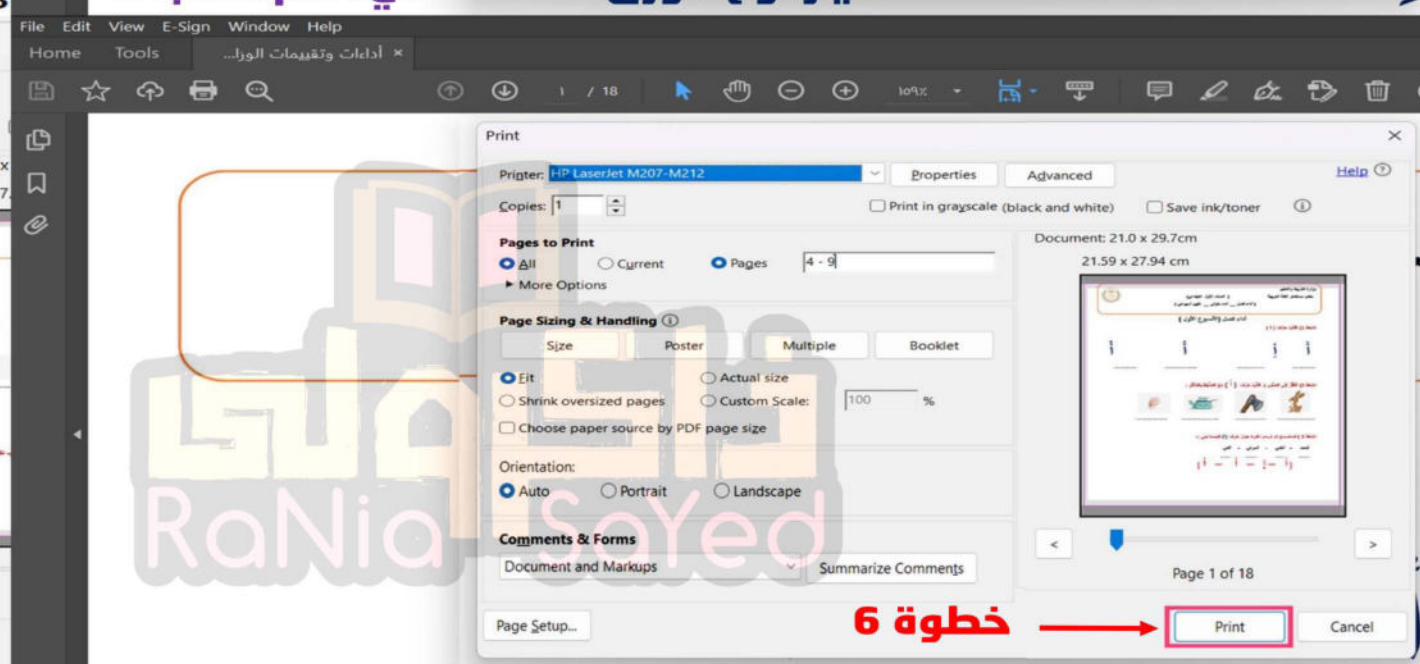
خطوة 2
اختيار اسم
الطابعة
بتاعتك

خطوة 3
كتابة الصفحات
المراد طباعتها
نكتب رقم 4 ثم
نكتب الشرطة
دي - ثم نكتب 9

خطوة 4
اختيار نوع الورق



خطوة 5
اختيار A4



خطوة 6

حمل الآن

مجاناً وحصرياً

المراجعة رقم (2)

الترم الثاني



Pony Revision on Unit 3 – Concept 1

Biosphere and Hydrosphere Interaction

Weeks
1 - 2 - 3

1 Choose the correct answer:

1. Water covers approximately % of the Earth's surface.
a. 10 b. 30 c. 50 d. 70
2. makes up most of the planet Earth.
a. Land b. Oxygen gas c. Water d. Mountain
3. The total amount of water on Earth
a. decreases b. increases c. changes d. does not change
4. Plants need water to perform the process of
a. growth b. respiration c. combustion d. photosynthesis
5. The Earth's hydrosphere contains
a. air b. soil c. rivers d. humans
6. The belong to the geosphere.
a. gases b. minerals c. snakes d. rivers
7. The hydrosphere contains all the following, except
a. rivers b. air c. seas d. oceans
8. The geosphere contains all the following, except
a. minerals b. rocks c. oxygen d. soil
9. Rivers are considered a part of the
a. biosphere b. hydrosphere c. atmosphere d. geosphere
10. Tree leaves are parts of the
a. geosphere b. hydrosphere c. biosphere d. atmosphere
11. A body of water surrounded by land on all sides is known as
a. a river b. a sea c. a lake d. groundwater
12. Water that flows from an area of higher altitude to an area of lower altitude in a definite path is known as
a. an ocean b. a river c. a sea d. a lake

13. When plants decompose in the soil, the interaction is between
- a. the geosphere and the hydrosphere
 - b. the hydrosphere and the biosphere
 - c. the biosphere and the geosphere
 - d. the atmosphere and the hydrosphere
14. When living organisms breathe, an interaction occurs between
- a. the biosphere and the geosphere
 - b. the atmosphere and the hydrosphere
 - c. the biosphere and the atmosphere
 - d. the geosphere and the hydrosphere
15. The percentage of salt water represents about% of the Earth's water.
- سلسلة كتب الأستاذ
- a. 3.5
 - b. 30
 - c. 70
 - d. 96.5
16. The is considered from the examples of organisms that live in water streams.
- a. dolphin
 - b. whale
 - c. starfish
 - d. salmon
17. Frogs live in
- a. lakes
 - b. ponds
 - c. seas
 - d. oceans
18. Salty water is found in all of the following bodies of water, except
- سلسلة كتب الأستاذ
- a. lakes
 - b. seas
 - c. rivers
 - d. oceans
19. Most fresh water is found in the form.
- a. liquid
 - b. frozen
 - c. gaseous
 - d. still
20. are the largest saltwater ecosystems.
- a. Ponds
 - b. Rivers
 - c. Lakes
 - d. Oceans
21. Water that seeps under the Earth's surface through porous rocks is known as
- a. lakes
 - b. groundwater
 - c. ponds
 - d. water streams
22. Ponds are characterized by water.
- a. fast-flowing
 - b. very salty
 - c. still
 - d. salty

**2 Put (✓) or (x):**

1. Water is used only for drinking. ()
2. A plant cannot grow without water. ()
3. Living organisms need water to survive. ()
4. The components of the ecosystem do not interact with each other. ()
5. Groundwater is found above the surface of the Earth. ()
6. All living organisms belong to the atmosphere. ()
7. The glacier is considered a part of the geosphere. ()
8. Air represents the atmosphere in the Earth's systems. ()
9. The oceans contain a large amount of fresh water. ()
10. The phenomenon of erosion by sea waves is an example of the interaction of the geosphere with the hydrosphere. ()
11. A lake's water is always fresh. ()
12. Glaciers represent most of the fresh water on Earth. ()
13. Groundwater is found in the depths of the oceans. ()
14. Oceans contain a large amount of fresh water. ()
15. Coral reefs are examples of saltwater ecosystems. ()
16. Lake Nasser and Lake Bardawil are examples of salty lakes in Egypt. ()

3 Correct the underlined words:

1. Water turns from the solid state to the liquid state by cooling. (.....)
2. Human is part of the hydrosphere. (.....)
3. Plants need water to do the process of reproduction. (.....)
4. Water covers about 50% of the Earth's surface. (.....)
5. Water turns into ice by heating. (.....)
6. The total amount of water on Earth changes. (.....)
7. Lake Assal is one of the fresh water lakes. (.....)
8. Pond water is characterized by fast-flowing water. (.....)
9. Salamanders live in the oceans. (.....)
10. Freshwater ecosystems cover a large portion of the Earth. (.....)



11. 3.5% of the water on Earth's surface is salty. (.....)
12. Water lilies live in sea water. (.....)

4 Complete the following sentences:

1. The ecosystem consists of and
2. From the components of the are oxygen and nitrogen.
3. The contains animals, birds, and fish.
4. Water turns into steam by
5. Water represents of the Earth.
6. Living organisms represent the of the Earth.
7. Water turns from a liquid to a solid by
8. An ecosystem consists of and non-living things.
9. The glacier is considered part of the
10. The winds that move objects are part of the
11. The phenomenon of erosion is an example of the interaction of the with the
12. Rocks and minerals are components of the
13. Water turns from a solid to a liquid by
14. Rivers belong to the, while human is part of the
15. Whales live in water.
16. Nasser Lake represents a water ecosystem.
17. Lake is one of the salty lakes in Egypt.
18. The shallow areas of saltwater ecosystems include and
19. is considered one of the living organisms that live in water streams.
20. Water lilies grow in water.
21. One of the fresh lakes in Egypt is



5 Write the scientific term:

1. It is the sphere that contains air and various gases. (.....)
2. It is the sphere that contains all living organisms. (.....)
3. It is the sphere that contains rocks, minerals, and soil. (.....)
4. It is an area characterized by greenery, soil, climate, and wildlife that distinguish it from other areas. (.....)
5. It is the water found under the surface of the Earth, seeping through porous rocks. (.....)

6 What is meant by the following:

1. The groundwater

.....

.....

2. The river

.....

.....

3. The lake

.....

.....

7 Mention the Earth's interacting systems in the following sentences:

1. Earthworms live in the soil and make it a shelter for them. (.....)
2. Rocks and soil move when water flows. (.....)
3. Plants absorb carbon dioxide during the process of photosynthesis. (.....)
4. Plants need water to grow. (.....)
5. Living organisms exchange gases with the air during respiration. (.....)





8 What are the uses of water in our lives:

.....

.....

9 Give reasons for the following:

1. Water is important for the life of living organisms.

.....

.....

.....

2. Water is considered a renewable resource.

.....

.....

.....

3. Plants are considered a renewable resource.

.....

.....

.....

4. Scientists use the word sphere to name each of the Earth's systems.

.....

.....

.....

5. Jellyfish cannot live in ponds.

.....

.....

.....

6. Fish do not live in Lake Assal.

.....

.....

.....

7. Whales live in oceans.

.....

.....

.....

10 What happens if:

1. Water changes from one state to another in relation to its total quantity?

.....

.....

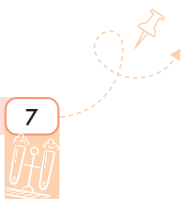
.....

2. Water disappears from the surface of the Earth?

.....

.....

.....



1 Choose the correct answer:

1. A/An is known as the place where the river meets the sea.
a. wetland b. estuary c. sea d. ocean
2. are defined as above-ground land areas that are partially covered with water.
a. Rivers b. Oceans c. Seas d. Wetlands
3. The water stored in the cracks and spaces of underground rocks is called
a. lakes b. groundwater c. seas d. oceans
4. are considered sources of fresh water.
a. Estuaries b. Rivers c. Oceans d. Seas
5. Swamps are considered one of the
a. lakes b. seas c. rivers d. wetlands
6. is/are among the sources of salt water on Earth.
a. Rivers b. Wetlands c. Seas d. Groundwater
7. contain fresh water.
a. Ponds b. Estuaries c. Seas d. Oceans
8. are formed when salty sea water meets fresh river water.
a. Lakes b. Wetlands c. Estuaries d. Water streams
9. The is considered the largest body of water and contains salty water.
a. swamp b. river c. ocean d. estuary
10. Ways to protect natural resources include
a. pollution b. deforestation
c. sustainability d. overfishing
11. A watershed is an area where water collects from and flows in one direction.
a. one source b. rain only
c. different sources d. lakes only

12. Paper is made from
- a. iron
 - b. plastic
 - c. copper
 - d. tree
13. Overfishing of small fish in river water results in
- a. fish scarcity
 - b. resource recovery
 - c. lack of fish quality
 - d. preserving fish
14. Ways to preserve the environment include
- a. deforestation
 - b. removal of natural resources
 - c. rationalizing the consumption of natural resources
 - d. excessive use of natural resources
15. The is from the factors affecting sustainability.
- a. climate
 - b. temperature
 - c. rain
 - d. population increase
16. causes soil pollution and the death of plants and animals.
- a. Burning coal
 - b. Rain
 - c. Planting trees
 - d. Blowing wind
17. A is an area of land where all the water that flows across it drains downhill to a common location in one direction.
- a. lake
 - b. watershed
 - c. pond
 - d. stream
18. Which of the following behaviors leads to wasting water?
- a. Reducing bath time
 - b. Drip irrigation of gardens
 - c. Excessive irrigation of gardens
 - d. Closing the water tap while brushing your teeth
19. is the main engine of the water cycle in nature.
- a. Human
 - b. Solar energy
 - c. Rain
 - d. Water treatment plant
20. All of the following bodies of water are freshwater, except
- a. rivers
 - b. rain
 - c. seas
 - d. groundwater



- 21.** All of the following are duties of wastewater treatment engineers, except
- a.** monitoring the water treatment process
 - b.** removing harmful substances from water
 - c.** designing bridges to facilitate transportation from cities
 - d.** designing ways to protect a community from floods
- 22.** All of the following are ways to conserve water, except
- a.** repairing leaky water tanks
 - b.** turning off the tap while washing clothes
 - c.** continuously using the shower for bathing
 - d.** using small amounts of water when cleaning cars
- 23.** Which of the following could lead to the destruction of renewable resources?
- a.** Dams construction
 - b.** Deforestation
 - c.** Resources protection
 - d.** Resources sustainability
- 24.** The most important sources of salt water are
- a.** seas and oceans
 - b.** rivers and groundwater
 - c.** rain and seas
 - d.** lakes and rivers
- 25.** We use to purify unclean water.
- a.** desalination
 - b.** natural reserves
 - c.** solar panels
 - d.** filters
- 26.** Polluting of fresh water may cause of animals.
- a.** diversity
 - b.** growth
 - c.** extinction
 - d.** increasing
- 27.** Which of the following behaviors leads to water waste?
- a.** Reducing bathing time
 - b.** Irrigating gardens with drip irrigation
 - c.** Overwatering gardens
 - d.** Turning off the tap while brushing your teeth
- 28.** To conserve renewable resources, we must
- a.** pollute water
 - b.** pollute soil
 - c.** pollute air
 - d.** use resources sustainably



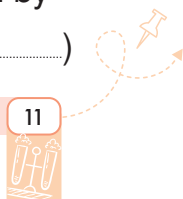


2 Put (✓) or (x):

1. Water is used to transport goods. ()
2. Ponds and swamps are groundwater. ()
3. Reducing bathing time is a way to waste water. ()
4. Wetlands are examples of salt water. ()
5. All water sources on Earth are suitable for drinking. ()
6. The water found slightly above Earth's surface level is known as oceans. ()
7. Hunting is allowed in natural reserves. ()
8. Downstream water increases when upstream water decreases. ()
9. Clothes are made from plants and animals products. ()
10. Deforestation destroys the natural habitats of many living organisms. ()
11. Overfishing helps increase the number of fish in any body of water. ()
12. Dumping factories waste in the water causes water pollution and makes it unfit for drinking. ()
13. Water is a recyclable resource. ()
14. Rivers are among the largest saltwater bodies. ()
15. Dams are used to filter polluted water for reuse. ()
16. Overconsumption of natural resources helps conserve them. ()
17. Polluted water can be converted into clean water using water filters. ()

3 Correct the underlined words:

1. Most of the water on the Earth's surface is fresh water. (.....)
2. Lakes are a source of salty water, with floors that contain mountains and plains. (.....)
3. Ponds are a type of estuary. (.....)
4. Rivers are sources of salt water. (.....)
5. Seas surround the continents and connect them to each other. (.....)
6. Estuaries are considered one of the large bodies of water surrounded by land on all sides. (.....)





1. When building a factory close to a body of water, this **protects** the body.
(.....)
2. **Estuaries** are tributaries that flow into bigger rivers, which lead to even bigger bodies of water.
(.....)
3. Population growth **benefits** sustainability.
(.....)
4. Plastic products are made from **cotton**.
(.....)
5. Deforestation **improves** the natural habitats of living organisms.
(.....)
6. The state provides natural **gardens** to protect endangered species.
(.....)
7. Using a water filter leads to water **pollution**.
(.....)
8. Water is one of the most important **industrial** resources on the Earth.
(.....)
9. Water from the High Dam in Egypt is used to generate **thermal** energy.
(.....)
10. Rivers are considered sources of **salt** water.
(.....)
11. **Dams** are used to filter contaminated water for reuse. (.....)

4 Complete the following sentences:

1. The ecosystem consists of and
2. Water consumption can be rationalized by
3. At the floor of an, there are mountains and plains.
4. Most of the water on the Earth's surface is water.
5. Water is used in and
6. Reducing bathing time helps to water consumption.
7. The Wadi El-Hitan Reserve is located in
8. Poor water quality exposes many living organisms to the danger of
.....
9. If the water at the upstream decreases, the water at the downstream will
.....



10. Among the factors that affect sustainability are and
11. Excessive use of well water can lead to wells
12. The area where water collects from different sources and moves in one direction is a
13. is one of the factors affecting sustainability.
14. Water is considered one of the resources on the Earth's surface.
15. Floods occur when the amount of rainfall in rivers
16. A is used to convert polluted water into clean water.
17. Wastewater engineers in Egypt work in
18. Water can be controlled and conserved by

5 Write the scientific term:

1. It is the place where rivers meet seas or oceans and it is home to thousands of plants and animals. (.....)
2. It is a large body of salt water and its floor has mountains and plains. (.....)
3. It is the water found in the cracks and spaces of underground rocks. (.....)

6 Write what the following statements mean:

1. It is using a resource in a way that does not negatively affect the future availability of that resource. (.....)
2. It is restricting access and use of resources, (.....)
3. It is the main engine of the water cycle in nature. (.....)



- 7** Classify the following water sources according to their type:
Rivers - Oceans - Glaciers - Seas - Ponds - Streams - Estuaries -
Swamps - Groundwater

Fresh Water	Salt Water	Mixture of Salt and Fresh Water
.....		
.....		
.....		

6 What happens if:

1. The amount of rain falling was very little?
.....
2. The rainfall was more than the river could contain?
.....
3. The cows started eating all the grass before the new grass grew?
.....
4. The factory waste leaks in one of the small streams?
.....
5. Well water is used more than is replenished by rainfall?
.....



Effects of Gravity

1 Choose the correct answer:

- PONY – Science Prim. 5 – Second Term



10. When the of an object increases, its gravity increases.
a. motion b. mass c. resistance d. distance
11. A magnet pulls metal paperclips because of its
a. gravitational force b. wind
c. air resistance d. magnetic force
12. Planets revolve in fixed orbits around the Sun under the effect of the gravity of
a. Earth b. the moon c. Jupiter d. the Sun
13. When an object is thrown vertically upward, it
a. moves at a great speed toward space
b. floats in space due to the absence of gravity
c. remains suspended because the gravity between it and Earth is equal
d. returns to Earth under the effect of gravity
14. The force of is generated between two touching surfaces and slows the movement of objects.
a. gravity b. push c. magnetism d. friction
15. The force that returns a ball to the ground after it has been thrown upward is
a. air resistance b. frictional force
c. gravitational force d. magnetic force
16. pulls skydivers upward to slow their fall toward the ground.
a. Frictional force b. Magnetism
c. Gravity d. Air resistance

2 Put (✓) or (X):

1. The Earth's gravity is greater than the moon's gravity. ()
2. Whenever the mass of an object increases, its gravitational force decreases. ()
3. Magnetic force is considered a pulling force only. ()
4. The force of gravity exists only between objects in touch. ()
5. Objects fall downward due to the frictional force. ()



6. Gravity is considered a visible force, while magnetism is an invisible force. ()
7. Friction increases the speed of an object. ()
8. Air resistance does not decrease the speed of a moving object. ()
9. Gravity affects the speed of planets revolution around the Sun. ()
10. An orbit is a spherical shape in which the planets revolve around the Sun. ()
11. Planets revolve around the Sun in fixed orbits under the effect of the Sun's gravity. ()
12. Light objects reach the Earth faster than heavy objects in the absence of air resistance. ()

3 Correct the underlined words: سلسلة كتب الـ

1. The Moon's gravitational force is greater than Earth's gravitational force. ()
2. Earth's gravity causes objects to move upward. ()
3. When an object falls from a high place, it moves upward. ()
4. When the distance between two objects increases, the force of attraction between them increases. ()
5. The effect of gravity increases whenever an object is raised above Earth's surface. ()
6. Waterfalls flow from the top of a river to the bottom due to air resistance. ()
7. Magnets attract wooden objects. ()
8. The force of gravity between two objects increases as the distance between them increases. ()
9. Air resistance affects an object which falling downward in the same direction of Earth's gravity. ()
10. The force that generated between two touching surfaces leads to slow the movement of object is known as magnetism. ()
11. Earth is the center of motion in the solar system. ()
12. magnet pulls metal paper clips due to the force of gravity. ()

**4 Complete the following sentences:**

1. Gravity is a type of
2. The Earth's gravitational force pulls objects
.....
3. revolve around the Sun in a fixed orbit due to gravity.
4. When the distance between two objects decreases, the gravitational force between them
5. If the moon's mass increases, the gravitational force between it and Earth
.....
6. If the distance between the moon and Earth increases, the gravity between them
7. Whenever the of an object increases, its gravity increases.
8. The force of gravity between two objects decreases as the
between them increases.
9. Planets revolve around the Sun in a orbit.
10. Air resistance acts to the direction of Earth's gravity.
11. Magnets have a strong attraction to certain metals, such as,
....., and
12. holds objects on the Earth's surface.
13. The moon revolves in a fixed around the Earth due to
Earth's
14. reduces the speed of an object's movement in the air.
15. Planets revolve in fixed orbits due to the effect of gravity.
16. Magnets attract some metals, such as

5 Write what the following statements mean:

1. It is a force of attraction between two objects with mass. (.....)
2. It is a type of frictional force generating from the movement of an object
in the air. (.....)
3. It includes the Sun and the planets that revolve around it. (.....)
4. It is a force generated between two touching surfaces, leading to slowing
the movement of the object. (.....)





6 Give reasons for:

1. Objects on the Earth's surface will remain stable.

.....

.....

2. The moon revolves around Earth in a fixed orbit.

.....

.....

3. The moon's gravity is less than Earth's gravity.

.....

.....

4. The Sun is the center of motion in the solar system.

.....

.....

5. Earth's gravity is stronger than the moon's gravity.

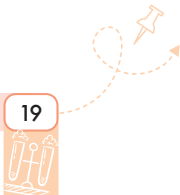
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6. The moon revolves around Earth in a fixed orbit.

.....

.....



1 Choose the correct answer:

1. is the fastest rotating planet around its axis in the solar system.
a. Earth **b.** Jupiter **c.** Mercury **d.** Venus
2. The Earth rotates once on its axis every
a. 24 hours **b.** 12 hours **c.** 24 days **d.** 365 days
3. The Earth's rotation around its axis causes
a. the seasons **b.** the occurrence of spring
c. day and night **d.** increasing gravity
4. The Earth moves around
a. the Sun only **b.** moon
c. its axis only **d.** its axis and the Sun
5. As the Earth rotates around its axis, the half of the Earth facing the Sun is
a. night **b.** summer **c.** day **d.** winter
6. The imaginary line that passes through the Earth from the North Pole to the South Pole is called the
a. equator **b.** orbit
c. Earth's axis **d.** constellation
7. Day and night phenomenon occurs because the Earth rotates around
a. the Sun **b.** the moon **c.** Jupiter **d.** its axis
8. The Sun is considered a medium-sized
a. comet **b.** planet **c.** meteoroid **d.** star
9. A group of stars that looks like a certain shape in the sky is called
a. solar system **b.** constellation **c.** Earth's axis **d.** Sundial
10. The length and angle of the shadow change depending on the position of the in the sky.
a. Sun **b.** moon **c.** stars **d.** clouds

11. New stars appear every night from the direction.
 a. north b. south c. east d. west
12. Orion is an example of in the sky.
 a. planets b. constellations
 c. glaciers d. telescopes
13. In the morning, a person's shadow is
 a. short b. non-existent c. above him d. long
14. The closest star to Earth is
 a. Venus b. the moon c. Jupiter d. the Sun
15. The difference in the shape of the moon during its revolution around Earth is known as
 a. starlight b. Earth's cycle
 c. the pole star d. moon's phases
16. In the middle of the lunar month, the moon appears as a
 a. Crescent b. Full Moon c. New Moon d. Gibbous
17. The moon reflects the light of the falling on it.
 a. planets b. Earth c. Sun d. stars
18. Stars make their own light because they are made of hot, which make them shine bright.
 a. rocks b. gases c. sands d. metals
19. In the planetarium, you see pictures of
 a. stars and planets b. constellations
 c. celestial bodies d. all the previous

2 Put (✓) or (x):

1. The Earth rotates around its axis once every hour. ()
2. The Sun seems like it is moving in the sky. ()
3. The fastest rotating planet around the Earth is Jupiter. ()
4. The phenomenon of day and night occurs once every year. ()
5. The planets of the solar system rotate around the Sun at similar speeds. ()
6. The rotation of the Earth around the Sun causes day and night cycle. ()



7. Comets and meteors cannot be seen with the naked eye. ()
8. The Sun is the only star in the solar system. ()
9. The atmosphere allows some light waves to pass through it. ()
10. Astronauts can be sent to explore distant stars. ()
11. Different star clusters can be observed more in the summer than in the winter. ()
12. A group of stars that looks like a certain shape in the sky is called a constellation. ()
13. The moon appears fully illuminated at the beginning of the lunar month. ()
14. The shape of the moon varies throughout the lunar month. ()
15. The moon revolves around the Earth in a circular path. ()
16. The moon reflects light, so we see it illuminated in the sky. ()
17. The New Moon is one of the phases of the moon where the apparent face of the moon to the Earth is fully illuminated. ()

3 Correct the underlined words:

1. The Earth rotates around its axis horizontally. ()
2. The cycle of day and night occurs due to the Earth's rotation around the Sun. ()
3. Mars is the fastest rotating planet in the solar system. ()
4. One side of the Earth facing the Sun during the Earth's rotation around its axis causing night. ()
5. Earth completes one rotation on its axis in 365 days. ()
6. One side of the Earth is away from the Sun during the Earth's rotation around its axis, causing day. ()
7. We use tools such as microscopes to study celestial objects. ()
8. The atmosphere acts as a protective layer surrounding the Earth planet because it forms clouds. ()



9. The Sun's changing position in the sky throughout the day causes the length of shadow to be similar. (.....)
10. The closest star to the Earth is Jupiter. (.....)
11. Constellations are most visible in the spring. (.....)
12. Engineers are responsible for operating the planetarium. (.....)
13. Stars near the poles rotate very rapidly. (.....)

4 Complete the following sentences:

1. The planets of the solar system rotate around the Sun at speeds.
2. The Earth rotates around its axis in clockwise direction.
3. As the Earth rotates around its axis, the side faces the Sun is
4. The imaginary line passing through the Earth from the North Pole to the South Pole is called
5. The phenomenon of occurs due to the Earth's rotation around its axis.
6. The fastest rotating planet in the solar system is
7. Stars are made of
8. An example of binoculars is
9. The length of the shadow during the time is shorter than the other times.
10. Some celestial bodies such as can be seen with the naked eye.
11. The length of the shadow varies depending on the position of the in the sky.
12. Binoculars and telescopes are tools used to
13. The Sun is a sized star relative to other stars.
14. The moon revolves around the Earth in an orbit.
15. The moon is named at the beginning of the lunar month.
16. Stars make their own light because they are made of
17. The alternation of night and day occurs as a result of the Earth's rotation around



18. The moon face facing Earth is completely dark during the of the lunar month.
19. When the moon is in the middle of a lunar month, it is called a
20. The moon appears bright in the sky due to the reflection of on the moon's surface.
21. The side of the moon facing the Earth is completely dark in the of the lunar month.

5 Write the scientific term

1. It is the fastest rotating planet in the solar system. (.....)
2. It is an imaginary line passing through the Earth from the North Pole to the South Pole. (.....)
3. It is a phenomenon that occurs due to the Earth's rotation around its axis. (.....)
4. It is a group of stars that looks like a certain shape in the sky. (.....)
5. They are giant celestial bodies composed of gases. (.....)
6. The moon has different shapes through a full lunar month. (.....)
7. It is a phase of the moon in which the side of the moon facing Earth is completely dark. (.....)
8. It appears in the middle of the month, when the side of the moon facing Earth is fully illuminated. (.....)

6 Give reasons for the following:

1. The sequence of night and day occurs.
.....
2. We do not feel the movement of Earth and it seems like it is standing still.
.....
3. The Sun appears to us much larger than other stars.
.....
4. The lengths and angles of shadows vary throughout the day.
.....



5. The moon looks bright in the sky.

.....

6. The occurrence of the phases of the moon occur.

.....

7. The moon appears in different shapes during the lunar month.

.....

7 What happens if:

– The Earth stopped rotating on its axis?

.....

8 Answer the following questions:

1. Why don't we send astronauts to explore the stars?

.....

2. Mention a device used to observe celestial bodies.

.....

3. What is meant by the pole stars?

.....

.....

Pony Revision on Unit 3 – Concept 1

Biosphere and Hydrosphere Interaction

Weeks
1 - 2 - 3

1 Choose the correct answer:

1. Water covers approximately % of the Earth's surface.
a. 10 b. 30 c. 50 d. 70
2. makes up most of the planet Earth.
a. Land b. Oxygen gas c. Water d. Mountain
3. The total amount of water on Earth
a. decreases b. increases c. changes d. does not change
4. Plants need water to perform the process of
a. growth b. respiration c. combustion d. photosynthesis
5. The Earth's hydrosphere contains
a. air b. soil c. rivers d. humans
6. The belong to the geosphere.
a. gases b. minerals c. snakes d. rivers
7. The hydrosphere contains all the following, except
a. rivers b. air c. seas d. oceans
8. The geosphere contains all the following, except
a. minerals b. rocks c. oxygen d. soil
9. Rivers are considered a part of the
a. biosphere b. hydrosphere c. atmosphere d. geosphere
10. Tree leaves are parts of the
a. geosphere b. hydrosphere c. biosphere d. atmosphere
11. A body of water surrounded by land on all sides is known as
a. a river b. a sea c. a lake d. groundwater
12. Water that flows from an area of higher altitude to an area of lower altitude in a definite path is known as
a. an ocean b. a river c. a sea d. a lake

13. When plants decompose in the soil, the interaction is between
- a. the geosphere and the hydrosphere
 - b. the hydrosphere and the biosphere
 - c. the biosphere and the geosphere
 - d. the atmosphere and the hydrosphere
14. When living organisms breathe, an interaction occurs between
- a. the biosphere and the geosphere
 - b. the atmosphere and the hydrosphere
 - c. the biosphere and the atmosphere
 - d. the geosphere and the hydrosphere
15. The percentage of salt water represents about% of the Earth's water.
- سلسلة كتب الأستاذ
- a. 3.5
 - b. 30
 - c. 70
 - d. 96.5
16. The is considered from the examples of organisms that live in water streams.
- a. dolphin
 - b. whale
 - c. starfish
 - d. salmon
17. Frogs live in
- a. lakes
 - b. ponds
 - c. seas
 - d. oceans
18. Salty water is found in all of the following bodies of water, except
- a. lakes
 - b. seas
 - c. rivers
 - d. oceans
19. Most fresh water is found in the form.
- a. liquid
 - b. frozen
 - c. gaseous
 - d. still
20. are the largest saltwater ecosystems.
- a. Ponds
 - b. Rivers
 - c. Lakes
 - d. Oceans
21. Water that seeps under the Earth's surface through porous rocks is known as
- a. lakes
 - b. groundwater
 - c. ponds
 - d. water streams
22. Ponds are characterized by water.
- a. fast-flowing
 - b. very salty
 - c. still
 - d. salty

**2 Put (✓) or (X):**

1. Water is used only for drinking. (X)
2. A plant cannot grow without water. (✓)
3. Living organisms need water to survive. (✓)
4. The components of the ecosystem do not interact with each other. (X)
5. Groundwater is found above the surface of the Earth. (X)
6. All living organisms belong to the atmosphere. (X)
7. The glacier is considered a part of the geosphere. (X)
8. Air represents the atmosphere in the Earth's systems. (✓)
9. The oceans contain a large amount of fresh water. (X)
10. The phenomenon of erosion by sea waves is an example of the interaction of the geosphere with the hydrosphere. (✓)
11. A lake's water is always fresh. (X)
12. Glaciers represent most of the fresh water on Earth. (✓)
13. Groundwater is found in the depths of the oceans. (X)
14. Oceans contain a large amount of fresh water. (X)
15. Coral reefs are examples of saltwater ecosystems. (✓)
16. Lake Nasser and Lake Bardawil are examples of salty lakes in Egypt. (X)

3 Correct the underlined words:

1. Water turns from the solid state to the liquid state by cooling. (heating)
2. Human is part of the hydrosphere. (biosphere)
3. Plants need water to do the process of reproduction. (photosynthesis)
4. Water covers about 50% of the Earth's surface. (71%)
5. Water turns into ice by heating. (cooling)
6. The total amount of water on Earth changes. (doesn't change)
7. Lake Assal is one of the fresh water lakes. (salty)
8. Pond water is characterized by fast-flowing water. (still)
9. Salamanders live in the oceans. (Dolphins)
10. Freshwater ecosystems cover a large portion of the Earth. (Saltwater)



11. 3.5% of the water on Earth's surface is salty. (fresh)
12. Water lilies live in sea water. (ponds)

4 Complete the following sentences:

1. The ecosystem consists of living things and non-living things.
2. From the components of the atmosphere are oxygen and nitrogen.
3. The biosphere contains animals, birds, and fish.
4. Water turns into steam by evaporation (heating).
5. Water represents 71% (the hydrosphere) of the Earth.
6. Living organisms represent the biosphere of the Earth.
7. Water turns from a liquid to a solid by cooling (freezing).
8. An ecosystem consists of living things and non-living things.
9. The glacier is considered part of the hydrosphere.
10. The winds that move objects are part of the atmosphere.
11. The phenomenon of erosion is an example of the interaction of the hydrosphere with the geosphere.
12. Rocks and minerals are components of the geosphere.
13. Water turns from a solid to a liquid by melting (heating).
14. Rivers belong to the hydrosphere, while human is part of the biosphere.
15. Whales live in salt water.
16. Nasser Lake represents a fresh water ecosystem.
17. Lake Bardawil is one of the salty lakes in Egypt.
18. The shallow areas of saltwater ecosystems include coral reefs and intertidal zones.
19. Salmon is considered one of the living organisms that live in water streams.
20. Water lilies grow in pond still water.
21. One of the fresh lakes in Egypt is Lake Nasser.



5 Write the scientific term:

1. It is the sphere that contains air and various gases. **(Atmosphere)**
2. It is the sphere that contains all living organisms. **(Biosphere)**
3. It is the sphere that contains rocks, minerals, and soil. **(Geosphere)**
4. It is an area characterized by greenery, soil, climate, and wildlife that distinguish it from other areas. **(Biome)**
5. It is the water found under the surface of the Earth, seeping through porous rocks. **(Groundwater)**

6 What is meant by the following:

1. The groundwater
It is the water that lies under the Earth's surface due to leakage of water through a layer of porous rock.
2. The river
It is a body of water that always flows from an area of a higher altitude to an area of a lower altitude in a definite path.
3. The lake
It is body of water that is surrounded by land.

7 Mention the Earth's interacting systems in the following sentences:

1. Earthworms live in the soil and make it a shelter for them.
Biosphere and geosphere
2. Rocks and soil move when water flows.
Geosphere and hydrosphere
3. Plants absorb carbon dioxide during the process of photosynthesis.
Biosphere and atmosphere
4. Plants need water to grow.
Biosphere and hydrosphere
5. Living organisms exchange gases with the air during respiration.
Biosphere and atmosphere



**8 What are the uses of water in our lives:**

Preparing food – Bathing – Cleaning – Traveling – Manufacturing – Recreation

9 Give reasons for the following:

1. Water is important for the life of living organisms.

① **Humans and animals drink water to survive.**

② **Plants need water to grow.**

③ **Some animals and plants live in water.**

2. Water is considered a renewable resource.

Because water can be replaced (renewed) during the water cycle.

3. Plants are considered a renewable resource.

Because plants can be planted from seeds that grow up forming new plants.

4. Scientists use the word sphere to name each of the Earth's systems.

Because the shape of the Earth looks like a sphere.

5. Jellyfish cannot live in ponds.

Because jelly fish can survive only in salty water.

6. Fish do not live in Lake Assal.

Because it has a high concentration of natural salts.

7. Whales live in oceans.

Because whales can survive only in salty water.

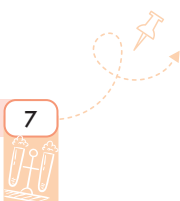
10 What happens if:

1. Water changes from one state to another in relation to its total quantity?

The total amount of water on Earth doesn't change.

2. Water disappears from the surface of the Earth?

All living organisms will die.



1 Choose the correct answer:

1. A/An is known as the place where the river meets the sea.
a. wetland b. estuary c. sea d. ocean
2. are defined as above-ground land areas that are partially covered with water.
a. Rivers b. Oceans c. Seas d. Wetlands
3. The water stored in the cracks and spaces of underground rocks is called
a. lakes b. groundwater c. seas d. oceans
4. are considered sources of fresh water.
a. Estuaries b. Rivers c. Oceans d. Seas
5. Swamps are considered one of the
a. lakes b. seas c. rivers d. wetlands
6. is/are among the sources of salt water on Earth.
a. Rivers b. Wetlands c. Seas d. Groundwater
7. contain fresh water.
a. Ponds b. Estuaries c. Seas d. Oceans
8. are formed when salty sea water meets fresh river water.
a. Lakes b. Wetlands c. Estuaries d. Water streams
9. The is considered the largest body of water and contains salty water.
a. swamp b. river c. ocean d. estuary
10. Ways to protect natural resources include
a. pollution b. deforestation
c. sustainability d. overfishing
11. A watershed is an area where water collects from and flows in one direction.
a. one source b. rain only
c. different sources d. lakes only

12. Paper is made from
a. iron b. plastic c. copper **d. tree**
13. Overfishing of small fish in river water results in
a. fish scarcity b. resource recovery
c. lack of fish quality d. preserving fish
14. Ways to preserve the environment include
a. deforestation
b. removal of natural resources
c. rationalizing the consumption of natural resources
d. excessive use of natural resources
15. The is from the factors affecting sustainability.
a. climate b. temperature
c. rain **d. population increase**
16. causes soil pollution and the death of plants and animals.
a. Burning coal b. Rain
c. Planting trees d. Blowing wind
17. A is an area of land where all the water that flows across it drains downhill to a common location in one direction.
a. lake **b. watershed** c. pond d. stream
18. Which of the following behaviors leads to wasting water?
a. Reducing bath time
b. Drip irrigation of gardens
c. Excessive irrigation of gardens
d. Closing the water tap while brushing your teeth
19. is the main engine of the water cycle in nature.
a. Human
b. Solar energy
c. Rain
d. Water treatment plant
20. All of the following bodies of water are freshwater, except
a. rivers b. rain
c. seas d. groundwater



21. All of the following are duties of wastewater treatment engineers, except
- a. monitoring the water treatment process
 - b. removing harmful substances from water
 - c. designing bridges to facilitate transportation from cities**
 - d. designing ways to protect a community from floods
22. All of the following are ways to conserve water, except
- a. repairing leaky water tanks
 - b. turning off the tap while washing clothes
 - c. continuously using the shower for bathing**
 - d. using small amounts of water when cleaning cars
23. Which of the following could lead to the destruction of renewable resources?
- a. Dams construction
 - b. Deforestation**
 - c. Resources protection
 - d. Resources sustainability
24. The most important sources of salt water are
- a. seas and oceans**
 - b. rivers and groundwater
 - c. rain and seas
 - d. lakes and rivers
25. We use to purify unclean water.
- a. desalination
 - b. natural reserves
 - c. solar panels
 - d. filters**
26. Polluting of fresh water may cause of animals.
- a. diversity
 - b. growth
 - c. extinction**
 - d. increasing
27. Which of the following behaviors leads to water waste?
- a. Reducing bathing time
 - b. Irrigating gardens with drip irrigation
 - c. Overwatering gardens**
 - d. Turning off the tap while brushing your teeth
28. To conserve renewable resources, we must
- a. pollute water
 - b. pollute soil
 - c. pollute air
 - d. use resources sustainably**





2 Put (✓) or (x):

1. Water is used to transport goods. (✓)
2. Ponds and swamps are groundwater. (x)
3. Reducing bathing time is a way to waste water. (x)
4. Wetlands are examples of salt water. (x)
5. All water sources on Earth are suitable for drinking. (x)
6. The water found slightly above Earth's surface level is known as oceans. (x)
7. Hunting is allowed in natural reserves. (x)
8. Downstream water increases when upstream water decreases. (x)
9. Clothes are made from plants and animals products. (✓)
10. Deforestation destroys the natural habitats of many living organisms. (✓)
11. Overfishing helps increase the number of fish in any body of water. (x)
12. Dumping factories waste in the water causes water pollution and makes it unfit for drinking. (✓)
13. Water is a recyclable resource. (✓)
14. Rivers are among the largest saltwater bodies. (x)
15. Dams are used to filter polluted water for reuse. (x)
16. Overconsumption of natural resources helps conserve them. (x)
17. Polluted water can be converted into clean water using water filters. (✓)

3 Correct the underlined words:

1. Most of the water on the Earth's surface is fresh water. (salt)
2. Lakes are a source of salty water, with floors that contain mountains and plains. (Oceans)
3. Ponds are a type of estuary. (wetland)
4. Rivers are sources of salt water. (Oceans)
5. Seas surround the continents and connect them to each other. (Oceans)
6. Estuaries are considered one of the large bodies of water surrounded by land on all sides. (Lakes)





7. When building a factory close to a body of water, this **protects** the body.
(**pollutes**)
8. **Estuaries** are tributaries that flow into bigger rivers, which lead to even bigger bodies of water.
(**Small creeks and streams**)
9. Population growth **benefits** sustainability.
(**harms**)
10. Plastic products are made from **cotton**.
(**oil**)
11. Deforestation **improves** the natural habitats of living organisms.
(**harms/damages/destroys**)
12. The state provides natural **gardens** to protect endangered species.
(**protectorates**)
13. Using a water filter leads to water **pollution**.
(**filtration**)
14. Water is one of the most important **industrial** resources on the Earth.
(**renewable**)
15. Water from the High Dam in Egypt is used to generate **thermal** energy.
(**electrical**)
16. Rivers are considered sources of **salt** water.
(**fresh**)
17. **Dams** are used to filter contaminated water for reuse.
(**Water filters**)
18. The Wadi El-Hitan Reserve is located in **Fayoum**.
19. Poor water quality exposes many living organisms to the danger of **extinction**.
20. If the water at the upstream decreases, the water at the downstream will **decrease**.
21. Among the factors that affect sustainability are **overpopulation** and **pollution**.
22. Excessive use of well water can lead to wells **drying up**.
23. The area where water collects from different sources and moves in one direction is a **watershed**.
24. **Pollution** is one of the factors affecting sustainability.
25. Water is considered one of the **renewable** resources on the Earth's surface.
26. Floods occur when the amount of rainfall in rivers **increases**.



27. A water filter is used to convert polluted water into clean water.
28. Wastewater engineers in Egypt work in Bahr Al-Baqar Wastewater Treatment Plant.
29. Water can be controlled and conserved by building dams.

4 Complete the following sentences:

1. The ecosystem consists of living organisms and non-living things.
2. Water consumption can be rationalized by taking a quick shower.
3. At the floor of an ocean, there are mountains and plains.
4. Most of the water on the Earth's surface is salt water.
5. Water is used in drinking and fishing.
6. Reducing bathing time helps to decrease water consumption.

5 Write the scientific term:

1. It is the place where rivers meet seas or oceans and it is home to thousands of plants and animals. **(An estuary)**
2. It is a large body of salt water and its floor has mountains and plains. **(Ocean)**
3. It is the water found in the cracks and spaces of underground rocks. **(Groundwater)**

6 Write what the following statements mean:

1. It is using a resource in a way that does not negatively affect the future availability of that resource. **(Sustainability)**
2. It is restricting access and use of resources, **(Preservation)**
3. It is the main engine of the water cycle in nature. **(Solar energy – The Sun)**



- 7** Classify the following water sources according to their type:
Rivers - Oceans - Glaciers - Seas - Ponds - Streams - Estuaries - Swamps - Groundwater

Fresh Water	Salt Water	Mixture of Salt and Fresh Water
Rivers - Glaciers - Ponds - Streams - Swamps - Groundwater	Oceans - Seas	Estuaries

6 What happens if:

1. The amount of rain falling was very little?
The water level will decrease, causing drought.
2. The rainfall was more than the river could contain?
The water level will rise, causing flooding.
3. The cows started eating all the grass before the new grass grew?
The grass will disappear and cows will be hungry.
4. The factory waste leaks in one of the small streams?
It will pollute the water of the tributaries connected to this small stream.
5. Well water is used more than is replenished by rainfall?
The well will dry up.



1 Choose the correct answer:

- Objects move under the effect of two forces, which are
a. pull and magnet
c. pull and push
b. pull and wind
d. rotation and push
- The force of holds objects on Earth.
a. wind
c. push
b. air resistance
d. gravity
- The force of gravity causes
a. the moon's revolution around Earth
b. the Earth's revolution around the Sun
c. Objects to fall towards Earth
d. all of the previous answers
- Which of the following objects has the greatest gravity?
a. Earth
b. The moon
c. Jupiter
d. The Sun
- Which of the following causes an increase in the force of attraction between two objects?
a. Increasing the distance between them
b. Increasing their masses
c. Decreasing their masses
d. Increasing the force of friction
- The force that returns the ball after it is thrown upward is the force of
a. push
b. friction
c. gravity
d. pull
- If the distance between the Earth and the moon increases, the force of attraction between them will
a. increase
c. decrease
b. disappear
d. be unchanged
- Magnetic force is considered a force of
a. push only
c. friction
b. pull only
d. push or pull
- Gravity is considered a force.
a. pushing
b. friction
c. visible
d. pulling



10. When the of an object increases, its gravity increases.
a. motion **b. mass** c. resistance d. distance
11. A magnet pulls metal paperclips because of its
a. gravitational force b. wind
c. air resistance **d. magnetic force**
12. Planets revolve in fixed orbits around the Sun under the effect of the gravity of
a. Earth b. the moon c. Jupiter **d. the Sun**
13. When an object is thrown vertically upward, it
a. moves at a great speed toward space
b. floats in space due to the absence of gravity
c. remains suspended because the gravity between it and Earth is equal
d. returns to Earth under the effect of gravity
14. The force of is generated between two touching surfaces and slows the movement of objects.
a. gravity b. push c. magnetism **d. friction**
15. The force that returns a ball to the ground after it has been thrown upward is
a. air resistance b. frictional force
c. gravitational force d. magnetic force
16. pulls skydivers upward to slow their fall toward the ground.
a. Frictional force b. Magnetism
c. Gravity **d. Air resistance**

2 Put (✓) or (X):

1. The Earth's gravity is greater than the moon's gravity. (✓)
2. Whenever the mass of an object increases, its gravitational force decreases. (X)
3. Magnetic force is considered a pulling force only. (X)
4. The force of gravity exists only between objects in touch. (X)
5. Objects fall downward due to the frictional force. (X)



6. Gravity is considered a visible force, while magnetism is an invisible force. (X)
7. Friction increases the speed of an object. (X)
8. Air resistance does not decrease the speed of a moving object. (X)
9. Gravity affects the speed of planets revolution around the Sun. (✓)
10. An orbit is a spherical shape in which the planets revolve around the Sun. (X)
11. Planets revolve around the Sun in fixed orbits under the effect of the Sun's gravity. (✓)
12. Light objects reach the Earth faster than heavy objects in the absence of air resistance. (X)

3 Correct the underlined words: سلسلة كتب الـ

1. The Moon's gravitational force is greater than Earth's gravitational force. (less)
2. Earth's gravity causes objects to move upward. (downward)
3. When an object falls from a high place, it moves upward. (downward)
4. When the distance between two objects increases, the force of attraction between them increases. (decrease)
5. The effect of gravity increases whenever an object is raised above Earth's surface. (near)
6. Waterfalls flow from the top of a river to the bottom due to air resistance. (gravity)
7. Magnets attract wooden objects. (Metal)
8. The force of gravity between two objects increases as the distance between them increases. (Decrease)
9. Air resistance affects an object which falling downward in the same direction of Earth's gravity. (opposite)
10. The force that generated between two touching surfaces leads to slow the movement of object is known as magnetism. (Friction force)
11. Earth is the center of motion in the solar system. (Sun)
12. magnet pulls metal paper clips due to the force of gravity. (Magnetism)

**4 Complete the following sentences:**

1. Gravity is a type of pulling force.
2. The Earth's gravitational force pulls objects down towards the center of the Earth.
3. Planets revolve around the Sun in a fixed orbit due to gravity.
4. When the distance between two objects decreases, the gravitational force between them increases.
5. If the moon's mass increases, the gravitational force between it and Earth increases.
6. If the distance between the moon and Earth increases, the gravity between them decreases.
7. Whenever the mass of an object increases, its gravity increases.
8. The force of gravity between two objects decreases as the distance between them increases.
9. Planets revolve around the Sun in a fixed orbit.
10. Air resistance acts opposite to the direction of Earth's gravity.
11. Magnets have a strong attraction to certain metals, such as iron, cobalt, and nickel.
12. Gravity holds objects on the Earth's surface.
13. The moon revolves in a fixed orbit around the Earth due to Earth's gravity.
14. Air resistance reduces the speed of an object's movement in the air.
15. Planets revolve in fixed orbits due to the effect of the Sun's gravity.
16. Magnets attract some metals, such as iron.

5 Write what the following statements mean:

1. It is a force of attraction between two objects with mass. (**Gravity**)
2. It is a type of frictional force generating from the movement of an object in the air. (**Air resistance**)
3. It includes the Sun and the planets that revolve around it. (**Solar System**)
4. It is a force generated between two touching surfaces, leading to slowing the movement of the object. (**Friction force**)





6 Give reasons for:

1. Objects on the Earth's surface will remain stable.

Because of the Earth's gravity that attracts all objects toward the Earth's center.

2. The moon revolves around Earth in a fixed orbit.

Because of Earth's gravity that keeps the moon in a fixed orbit around Earth.

3. The moon's gravity is less than Earth's gravity.

Because the mass of Earth is greater than the mass of the moon.

4. The Sun is the center of motion in the solar system.

Because the Sun has the biggest mass, so it has the greatest gravitational force, which attracts all planets in the solar system.

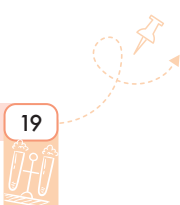
5. Earth's gravity is stronger than the moon's gravity.

Because the mass of Earth is greater than the mass of the moon.

6. The moon revolves around Earth in a fixed orbit.

Because of Earth's gravity.

الاستاذ
سلسلة كتب الاستاذ



Pony Revision on Unit 4 – Concept 2

Patterns of Motion in the Sky

Weeks
11 -12 - 13

1 Choose the correct answer:

1. is the fastest rotating planet around its axis in the solar system.
a. Earth b. Jupiter c. Mercury d. Venus
2. The Earth rotates once on its axis every
a. 24 hours b. 12 hours c. 24 days d. 365 days
3. The Earth's rotation around its axis causes
a. the seasons b. the occurrence of spring
c. day and night d. increasing gravity
4. The Earth moves around
a. the Sun only b. moon
c. its axis only d. its axis and the Sun
5. As the Earth rotates around its axis, the half of the Earth facing the Sun is
a. night b. summer c. day d. winter
6. The imaginary line that passes through the Earth from the North Pole to the South Pole is called the
a. equator b. orbit
c. Earth's axis d. constellation
7. Day and night phenomenon occurs because the Earth rotates around
a. the Sun b. the moon c. Jupiter d. its axis
8. The Sun is considered a medium-sized
a. comet b. planet c. meteoroid d. star
9. A group of stars that looks like a certain shape in the sky is called
a. solar system b. constellation c. Earth's axis d. Sundial
10. The length and angle of the shadow change depending on the position of the in the sky.
a. Sun b. moon c. stars d. clouds

11. New stars appear every night from the direction.
 a. north b. south c. east d. west
12. Orion is an example of in the sky.
 a. planets b. constellations
 c. glaciers d. telescopes
13. In the morning, a person's shadow is
 a. short b. non-existent c. above him d. long
14. The closest star to Earth is
 a. Venus b. the moon c. Jupiter d. the Sun
15. The difference in the shape of the moon during its revolution around Earth is known as
 a. starlight b. Earth's cycle
 c. the pole star d. moon's phases
16. In the middle of the lunar month, the moon appears as a
 a. Crescent b. Full Moon c. New Moon d. Gibbous
17. The moon reflects the light of the falling on it.
 a. planets b. Earth c. Sun d. stars
18. Stars make their own light because they are made of hot, which make them shine bright.
 a. rocks b. gases c. sands d. metals
19. In the planetarium, you see pictures of
 a. stars and planets b. constellations
 c. celestial bodies d. all the previous

2 Put (✓) or (X):

1. The Earth rotates around its axis once every hour. (X)
2. The Sun seems like it is moving in the sky. (✓)
3. The fastest rotating planet around the Earth is Jupiter. (X)
4. The phenomenon of day and night occurs once every year. (X)
5. The planets of the solar system rotate around the Sun at similar speeds. (X)



6. The rotation of the Earth around the Sun causes day and night cycle. (X)
7. Comets and meteors cannot be seen with the naked eye. (✓)
8. The Sun is the only star in the solar system. (✓)
9. The atmosphere allows some light waves to pass through it. (✓)
10. Astronauts can be sent to explore distant stars. (X)
11. Different star clusters can be observed more in the summer than in the winter. (X)
12. A group of stars that looks like a certain shape in the sky is called a constellation. (✓)
13. The moon appears fully illuminated at the beginning of the lunar month. (X)
14. The shape of the moon varies throughout the lunar month. (✓)
15. The moon revolves around the Earth in a circular path. (X)
16. The moon reflects light, so we see it illuminated in the sky. (✓)
17. The New Moon is one of the phases of the moon where the apparent face of the moon to the Earth is fully illuminated. (X)

3 Correct the underlined words:

1. The Earth rotates around its axis horizontally. (vertically)
2. The cycle of day and night occurs due to the Earth's rotation around the Sun. (it's axis)
3. Mars is the fastest rotating planet in the solar system. (Jupiter)
4. One side of the Earth facing the Sun during the Earth's rotation around its axis causing night.
5. Earth completes one rotation on its axis in 365 days. (24 hours or one day)
6. One side of the Earth is away from the Sun during the Earth's rotation around its axis, causing day. (night)
7. We use tools such as microscopes to study celestial objects. (telescopes)



8. The atmosphere acts as a protective layer surrounding the Earth planet because it **forms clouds**. (**blocks some light waves**)
9. The Sun's changing position in the sky throughout the day causes the length of shadow to be **similar**. (**different**)
10. The closest star to the Earth is **Jupiter**. (**Sun**)
11. Constellations are most visible in the **spring**. (**winter**)
12. **Engineers** are responsible for operating the planetarium. (**Planetarium directors**)
13. Stars near the poles rotate very **rapidly**. (**slowly**)

4 Complete the following sentences:

1. The planets of the solar system rotate around the Sun at **different** speeds.
2. The Earth rotates around its axis in **counter** clockwise direction.
3. As the Earth rotates around its axis, the side faces the Sun is **day**.
4. The imaginary line passing through the Earth from the North Pole to the South Pole is called **Earth's axis**.
5. The phenomenon of **day and night** occurs due to the Earth's rotation around its axis.
6. The fastest rotating planet in the solar system is **Jupiter**.
7. Stars are made of **super-hot gases**.
8. An example of binoculars is **Galileo Binoculars**.
9. The length of the shadow during the **noon** time is shorter than the other times.
10. Some celestial bodies such as **stars** can be seen with the naked eye.
11. The length of the shadow varies depending on the position of the **Sun** in the sky.
12. Binoculars and telescopes are tools used to **see distant celestial bodies in more details**.
13. The Sun is a **medium** sized star relative to other stars.
14. The moon revolves around the Earth in an **elliptical** orbit.
15. The moon is named **First Crescent** at the beginning of the lunar month.



16. Stars make their own light because they are made of **hot gases**.
17. The alternation of night and day occurs as a result of the Earth's rotation around **its axis**.
18. The moon face facing Earth is completely dark during the **last day** of the lunar month.
19. When the moon is in the middle of a lunar month, it is called a **Full Moon**.
20. The moon appears bright in the sky due to the reflection of **sunlight** on the moon's surface.
21. The side of the moon facing the Earth is completely dark in the **New Moon** of the lunar month.

5 Write the scientific term

1. It is the fastest rotating planet in the solar system. (**Jupiter**)
2. It is an imaginary line passing through the Earth from the North Pole to the South Pole. (**Earth's axis**)
3. It is a phenomenon that occurs due to the Earth's rotation around its axis. (**Cycle of day and night**)
4. It is a group of stars that looks like a certain shape in the sky. (**Constellation**)
5. They are giant celestial bodies composed of gases. (**Stars**)
6. The moon has different shapes through a full lunar month. (**Moon phases**)
7. It is a phase of the moon in which the side of the moon facing Earth is completely dark. (**New Moon**)
8. It appears in the middle of the month, when the side of the moon facing Earth is fully illuminated. (**Full Moon**)

6 Give reasons for the following:

1. The sequence of night and day occurs.
Due to the Earth's rotation around its axis.
2. We do not feel the movement of Earth and it seems like it is standing still.
Because we are moving with the same speed of Earth.
3. The Sun appears to us much larger than other stars.
Because it is the closest star to the Earth.



4. The lengths and angles of shadows vary throughout the day.

Because of the apparent movement of the Sun and the amount of Sunlight.

5. The moon looks bright in the sky.

Because the moon reflects the light of the Sun.

6. The occurrence of the phases of the moon occur.

Because of the moon's revolution around the Earth.

7. The moon appears in different shapes during the lunar month.

Because of the moon's revolution around the Earth.

7 What happens if:

- The Earth stopped rotating on its axis?

The cycle of day and night will not occur.

8 Answer the following questions:

1. Why don't we send astronauts to explore the stars?

Because stars are too far away from Earth.

2. Mention a device used to observe celestial bodies.

Hubble Telescope – Galileo Binoculars

3. What is meant by the pole stars?

They are stars near North and South Poles; and their locations change a little bit during the year.

حمل الآن

مجاناً وحصرياً

المراجعة رقم (3)

الترم الثاني



G5 Unit 1 revision

Choose the correct answer:

- 1- All the following are components of the atmosphere, except
a) oxygen gas b) nitrogen gas c) molten rocks d) water vapor
- 2- Which of the following is a part of the geosphere?
a) Water b) Air c) Rocks d) plants
- 3- Which of the following is a part of the biosphere?
a) Ice b) clouds c) Water d) Animals
- 4- Mountains and valleys are parts of
a) geosphere b) atmosphere c) biosphere d) hydrosphere.
- 5- Rocks are broken down into smaller particles during process.
a) photosynthesis b) weathering c) erosion d) respiration
- 6- Irrigation of plants is an example of the interaction between two Earth's systems which are and
a) hydrosphere – geosphere b) atmosphere - biosphere
c) geosphere – atmosphere d) biosphere - hydrosphere.
- 7- Roots fix plants in the soil, this is an interaction between
a) biosphere – geosphere b) atmosphere – biosphere
c) geosphere – atmosphere d) biosphere – hydrosphere
- 8- Polar bears live on ice, this is an example of an interaction between and
a) atmosphere – hydrosphere b) geosphere – hydrosphere
c) biosphere – geosphere d) biosphere – hydrosphere
- 9- Water evaporation and its condensing on planet Earth show an interaction between and
a) atmosphere – hydrosphere b) geosphere – hydrosphere
c) biosphere – geosphere d) biosphere – hydrosphere
- 10- Water is used in all the following purposes, except
a) recreation b) burning c) bathing d) manufacturing

11- Water covers nearly of the Earth planet.

- a) $\frac{1}{4}$ b) $\frac{1}{2}$ c) $\frac{3}{4}$ d) $\frac{3}{5}$

12- 96.5 % of Earth's water is

- a) salt water b) sugar water c) fresh water d) frozen water

13- All the following are characteristics of abyssal zone, except

- a) they are very deep areas b) sunlight cannot reach it
c) they are dark areas d) they are shallow areas

14- Rivers and streams contain water, while ponds contain water.

- a) salt – fresh b) fresh – salt c) running – still d) still – running

15- Water lilies can live in

- a) ponds b) seas c) oceans d) deserts

16- Among animals that can be found in ponds are and

- a) lions – salamanders b) dogs – frogs
c) frogs – salamanders d) foxes – bears

17- Water can control the of living organisms bodies.

- a) length b) height c) temperature d) volume

18- All the following are from sources of water on the Earth, except

- a) aquifers b) ponds c) glaciers d) molten rocks.

19- Among the sources of water which human can use for drinking

- a) seas b) oceans c) saltwater lakes d) rivers.

20- At the end of Nile River Delta, there is an between Nile River and Mediterranean sea.

- a) lake b) wetland c) ocean d) estuary

21- Among the kinds of wetlands are

- a) swamps and lakes b) marshes and bogs
c) ponds and oceans d) swamps and estuaries.

22- Among the risks that threaten lots of water areas on Earth are

- a) conservation and scarcity b) scarcity and poor quality
c) conservation and poor quality d) conservation and extinction

- 23- The level of water in a river may increase causing flooding, when there is more
- a) rainfall b) wind c) sunlight d) sediments.
- 24- can be used to recycle wastewater to be used again.
- a) Bottles b) Filters c) Dams d) Generator
- 25- All the following materials can be used to filter wastewater in simple water filter, except
- a) cotton b) wood c) charcoal d) sand
- 26- process is used to get filtered water from polluted water.
- a) Recycling b) Sustainability c) Preservation d) Conservation
- 27- Tributary usually ends by the flowing of its water into
- a) bigger ocean. b) sea. c) river. d) lake
- 28- All the following reasons cause water pollution in a river, except
- a) litter of a nearby trash dump.
b) waste of a nearby factory.
c) chemical fertilizers of a nearby farm.
d) building a dam across the river
- 29- Prevent developing of Ras Mohammed Protectorate is considered as an example of
- a) preservation. b) pollution. c) sustainability. d) consumption.
- 30- Cutting down too many trees of forests leads to
- a) deforestation and soil deposition.
b) overpopulation and soil erosion.
c) deforestation and soil erosion.
d) overpopulation and soil deposition.

Complete the following sentences:

- 1- The system that includes all living organisms such as animals and plants is called
- 2- The groundwater found in soil and rocks is an example of interaction betweenand
- 3- Formation of lakes is an example of an interaction between and
- 4- Water is responsible forprocess and process of rocks.
- 5- Weathering of rocks as a result of the effect of rains is an example of an interaction betweenand geosphere.
- 6- By heating of water it changes fromstate tostate.
- 7- During the water cycle in nature, water evaporates forming, then it returns back to the Earth's surface during
- 8- Fresh water forms some water bodies such as and some lakes, while and are formed of salt water.
- 9- water forms about 3.5 % of water on Earth, while water forms about 96.5 % of water.
- 10- Catfish live in water, while dolphins live in water.
- 11- Most lakes have water, while some other lakes have water.
- 12- Aquatic ecosystems can be classified into ecosystem and ecosystem.
- 13- Some types of worms live at the bottom of
- 14- According to water movement, ponds have water compared to streams that have water.
- 15- makes about two-thirds of human body.
- 16- In High Dam, water is used to generate
- 17- We must take a quick shower to conserve
- 18- The floor of may contain mountains and plateaus.
- 19- Groundwater is replaced by.....

- 20- The extinction of some species that live in fresh water is due to the poor of fresh water.
- 21- When the rate of rainfall decreases, the level of water in rivers will causing
- 22- A farm that is found near a tributary may cause water pollution if this farm is using chemical
- 23- Clothes can be made from..... products or products.
- 24- Water filters are used to remove materials from polluted water.
- 25- Wastewater engineers can test the quality of by checking for the amount ofin water.

Write the scientific term:

- 1- The system (sphere) that includes fresh water and salt water. (.....)
- 2- The system of Earth which contains all different landforms. (.....)
- 3- The large sheet of ice or snow that moves slowly over Earth's surface. (.....)
- 4- The Earth's system which consists of a mixture of gases surrounding Earth. (.....)
- 5- A cycle shows the continuous movement of water from the Earth to the atmosphere then to the Earth again. (.....)
- 6- The energy which plays an important role in water cycle in nature. (.....)
- 7- The process in which the small particles of rocks are transported from a place to another. (.....)
- 8- A large area of the world that has similar soil, climate, plants and animals. (.....)
- 9- The area along the coast that disappears at the high tide and appears at the low tide. (.....)
- 10- The largest saltwater ecosystems that cover large parts of Earth's surface. (.....)
- 11- The basic liquid matter which is needed by humans, animals and plants to survive. (.....)

- 12- A type of water which is suitable for drinking. (.....)
- 13- It is an area of land where all the water flows to a common location usually an ocean, a sea or other large water body. (.....)
- 14- They are small water bodies such as small creeks or streams that flow into bigger rivers. (.....)
- 15- A building established across a river which can hold water behind it. (.....)
- 16- Scientists who work on recycling water in water treatment plants. (.....)

Put (✓) or (x):

- 1) Earth's systems don't interact with each other. ()
- 2) When wind carries seeds of some plants to new places, an interaction between atmosphere and biosphere can be observed. ()
- 3) Rainwater is the only reason for weathering and erosion of rocks on the Earth's surface. ()
- 4) Water is important for growing of living organisms. ()
- 5) Deserts and forests are examples of biomes. ()
- 6) Water evaporates from the surface of a lake will move from atmosphere to hydrosphere. ()
- 7) If there is no hydrosphere, the biosphere will not exist. ()
- 8) Water on the Earth is divided into fresh water and salt water. ()
- 9) The amount of fresh water on Earth is more than that of salt water. ()
- 10) Most of the salt water on Earth is found in the form of frozen water. ()
- 11) The total amount of water on Earth doesn't change. ()
- 12) All animals and plants can live in aquatic habitats. ()
- 13) Some ponds and lakes may dry up in winter months. ()
- 14) Without water, all forms of life will disappear. ()
- 15) There are no living organisms live in the hydrosphere. ()
- 16) When the amount of water decreases or water get polluted, biosphere will be affected. ()

- 17) A river always flows from an area of low place to an area with higher place. ()
- 18) Wells and springs obtain their water from aquifers. ()
- 19) The amount of salt water on the Earth is smaller than the amount of fresh water. ()
- 20) Some animals and plants live in water. ()
- 21) The place where two oceans meet is called an estuary. ()
- 22) Rivers and streams are freshwater moving bodies. ()
- 23) Turning off the water tap, while washing your hair is from the ways to conserve water. ()
- 24) We can drink the water of seas. ()
- 25) Rivers often start in mountains in the form of estuaries. ()
- 26) Assal lake is surrounded by land and it is a low-lying area. ()
- 27) The type of water in lakes is salt water only. ()
- 28) Upstream is the place where a river starts. ()
- 29) Preservation and sustainability are ways to conserve natural resources. ()
- 30) Placing many cows in small grass areas is considered as unsustainable situation. ()
- 31) Recycling of wastewater means removing waste materials from it. ()
- 32) Water is considered as a nonrenewable natural resource. ()
- 33) Adding some of mud to clear water can pollute it. ()
- 34) Wastewater engineers decide where to build water treatment plants. ()

Correct the underlined words:

- 1- The system that includes rocks and heavy metals is called hydrosphere. (.....)
- 2- Rainwater is a part of biosphere. (.....)
- 3- Presence of dolphins in oceans represents an interaction between hydrosphere and geosphere. (.....)

- 4- A spring flows out from a rock is an example of an interaction between hydrosphere and atmosphere. (.....)
- 5- Water can change into water vapor in extreme cold weather. (.....)
- 6- A rat that digs a barrow in the soil is an example of the interaction between biosphere and atmosphere. (.....)
- 7- Shallow areas of oceans don't receive sunlight. (.....)
- 8- Abyssal areas of oceans contain coral reefs and intertidal zones. (.....)
- 9- Some animals live in bonds such as catfish, and trout. (.....)
- 10- High quality of fresh water leads to the death of marine organisms live in it. (.....)

Give reasons for:

- 1- Water can affect nonliving things like rocks.
➤
- 2- Hiding of worms inside the soil is an example of an interaction between two Earth's spheres.
➤
- 3- Importance of atmosphere for plants in making their food.
➤
- 4- Water is important for all plants on Earth.
➤
- 5- Our planet looks like a blue marble from the space.
➤
- 6- More than 50% of known living organisms live in the aquatic environments.
➤
- 7- Most of the fresh water on Earth can't be used for drinking.
➤
- 8- Not every water source is used as drinking water.
➤

9- Water that forms the hydrosphere is from the renewable resources.

➤

10- No green plants can survive in the abyssal zones of oceans.

➤

11- We must conserve fresh water.

➤

12- You should turn off water tap during brushing your teeth.

➤

13- Groundwater is called by this name.

➤

14- Farms near tributaries may cause water pollution.

➤

15- Countries prevent using or developing natural resources in some protected areas of land.

➤

What happens if:

1- People don't conserve fresh water.

➤

2- Fresh water of a river when it meets the salt water of a sea.

➤

3- Water is collected in a low-lying area.

➤

4- The quality of fresh water becomes poor.

➤

5- The rate of rainfall increases on a river.

➤

6- A trash dump is established near a tributary that is connected with a river.

➤

7- You mix clear water with small amount of mud.

➤

Choose from column (B) what suits it in column (A)

1)

Column A	Column B
1) The word "Geo" refers to	a) water
2) The word "Hydro" refers to	b) Earth
3) The word "Atmos" refers to	c) life
4) The word "bio" refers to	d) vapor

1	2	3	4
.....			

2)

Column A	Column B
1) Oceans	a) contain fresh water or salt water
2) Lakes	b) contain salt water only.
3) Rivers	c) contain mixture of fresh water and salt water.
4) Estuary	d) contain fresh water only.
5) Groundwater	e) is the water found between pores of rocks below Earth's surface.

1	2	3	4	5
.....				

3)

Column A	Column B
1) A water body that often starts in the mountain as a stream.	a) Estuary
2) It is formed when a river meets a sea.	b) River
3) The large water body that is surrounded by land and formed when water collects in low-lying areas.	c) Wetland
4) The water bodies that surround the continents	d) Lake
5) It is a land area which is partially covered with water.	e) Oceans

1	2	3	4	5
.....				

4)

Column A	Column B
1) Trees	a) Can be used in making plastic.
2) Sustainability	b) Can be used in making paper.
3) Oil products	c) Can be used in making clothes.
4) Cotton	d) The action of control reaching of humans to the natural resources or using them.
5) Preservation	e) Using resources in a way that doesn't negatively affect the future supply of these resources.

1	2	3	4	5
.....				

Cross out the odd words:

- 1- Water – carbon dioxide – oxygen – nitrogen.
- 2- Oceans – Rivers – Rocks– Lakes.
- 3- Ponds – rivers – rains – oceans.
- 4- Gulfs – seas – oceans – rivers.
- 5- Kelp – starfish – Moses fish – Frogs.

G5 Unit 1 revision (answered)

Choose the correct answer:

- 1- All the following are components of the atmosphere, except.....
a) oxygen gas b) nitrogen gas c) molten rocks d) water vapor
- 2- Which of the following is a part of the geosphere?
a) Water b) Air c) Rocks d) plants
- 3- Which of the following is a part of the biosphere?
a) Ice b) clouds c) Water d) Animals
- 4- Mountains and valleys are parts of
a) geosphere b) atmosphere c) biosphere d) hydrosphere.
- 5- Rocks are broken down into smaller particles during process.
a) photosynthesis b) weathering c) erosion d) respiration
- 6- Irrigation of plants is an example of the interaction between two Earth's systems which are and
a) hydrosphere – geosphere b) atmosphere - biosphere
c) geosphere – atmosphere d) biosphere - hydrosphere.
- 7- Roots fix plants in the soil, this is an interaction between
a) biosphere – geosphere b) atmosphere – biosphere
c) geosphere – atmosphere d) biosphere – hydrosphere
- 8- Polar bears live on ice, this is an example of an interaction between and
a) atmosphere – hydrosphere b) geosphere – hydrosphere
c) biosphere – geosphere d) biosphere – hydrosphere
- 9- Water evaporation and its condensing on planet Earth show an interaction between and
a) atmosphere – hydrosphere b) geosphere – hydrosphere
c) biosphere – geosphere d) biosphere – hydrosphere
- 10- Water is used in all the following purposes, except
a) recreation b) burning c) bathing d) manufacturing

- 11- Water covers nearly of the Earth planet.
a) $\frac{1}{4}$ b) $\frac{1}{2}$ c) $\frac{3}{4}$ d) $\frac{3}{5}$
- 12- 96.5 % of Earth's water is
a) salt water b) sugar water c) fresh water d) frozen water
- 13- All the following are characteristics of abyssal zone, except.....
a) they are very deep areas b) sunlight cannot reach it
c) they are dark areas d) they are shallow areas
- 14- Rivers and streams contain water, while ponds contain water.
a) salt – fresh b) fresh – salt c) running – stil d) still – running
- 15- Water lilies can live in
a) ponds b) seas c) oceans d) deserts
- 16- Among animals that can be found in ponds are and
a) lions – salamanders b) dogs – frogs
c) frogs – salamanders d) foxes – bears
- 17- Water can control the of living organisms bodies.
a) length b) height c) temperature d) volume
- 18- All the following are from sources of water on the Earth, except
a) aquifers b) ponds c) glaciers d) molten rocks.
- 19- Among the sources of water which human can use for drinking.....
a) seas b) oceans c) saltwater lakes d) rivers.
- 20- At the end of Nile River Delta, there is an between Nile River and Mediterranean sea.
a) lake b) wetland c) ocean d) estuary
- 21- Among the kinds of wetlands are
a) swamps and lakes b) marshes and bogs
c) ponds and oceans d) swamps and estuaries.
- 22- Among the risks that threaten lots of water areas on Earth are.....
a) conservation and scarcity b) scarcity and poor quality
c) conservation and poor quality d) conservation and extinction

- 23- The level of water in a river may increase causing flooding, when there is more
- a) rainfall b) wind c) sunlight d) sediments.
- 24- can be used to recycle wastewater to be used again.
- a) Bottles b) Filters c) Dams d) Generator
- 25- All the following materials can be used to filter wastewater in simple water filter, except
- a) cotton b) wood c) charcoal d) sand
- 26- process is used to get filtered water from polluted water.
- a) Recycling b) Sustainability c) Preservation d) Conservation
- 27- Tributary usually ends by the flowing of its water into
- a) bigger ocean. b) sea. c) river. d) lake
- 28- All the following reasons cause water pollution in a river, except
- a) litter of a nearby trash dump.
b) waste of a nearby factory.
c) chemical fertilizers of a nearby farm.
d) building a dam across the river.
- 29- Prevent developing of Ras Mohammed Protectorate is considered as an example of
- a) preservation. b) pollution. c) sustainability. d) consumption.
- 30- Cutting down too many trees of forests leads to
- a) deforestation and soil deposition.
b) overpopulation and soil erosion.
c) deforestation and soil erosion.
d) overpopulation and soil deposition.

Complete the following sentences:

- 1- The system that includes all living organisms such as animals and plants is called biosphere.
- 2- The groundwater found in soil and rocks is an example of interaction between hydrosphere and geosphere.
- 3- Formation of lakes is an example of an interaction between hydrosphere and geosphere.
- 4- Water is responsible for weathering process and erosion process of rocks.
- 5- Weathering of rocks as a result of the effect of rains is an example of an interaction between hydrosphere and geosphere.
- 6- By heating of water it changes from liquid state to gas state.
- 7- During the water cycle in nature, water evaporates forming clouds, then it returns back to the Earth's surface during rain.
- 8- Fresh water forms some water bodies such as rivers and some lakes, while seas and oceans are formed of salt water.
- 9- Fresh water forms about 3.5 % of water on Earth, while salt water forms about 96.5 % of water.
- 10- Catfish live in fresh water, while dolphins live in salt water.
- 11- Most lakes have fresh water, while some other lakes have salt water.
- 12- Aquatic ecosystems can be classified into freshwater ecosystem and saltwater ecosystem.
- 13- Some types of worms live at the bottom of ponds.
- 14- According to water movement, ponds have still water compared to streams that have running water.
- 15- Water makes about two-thirds of human body.
- 16- In High Dam, water is used to generate electricity.
- 17- We must take a quick shower to conserve water.
- 18- The floor of oceans may contain mountains and plateaus.
- 19- Groundwater is replaced by rains.
- 20- The extinction of some species that live in fresh water is due to the poor quality of fresh water.

- 21- When the rate of rainfall decreases, the level of water in rivers will decrease causing drought.
- 22- A farm that is found near a tributary may cause water pollution if this farm is using chemical fertilizers.
- 23- Clothes can be made from animal products or plant products.
- 24- Water filters are used to remove waste materials from polluted water.
- 25- Wastewater engineers can test the quality of water by checking for the amount of pollutants in water.

Write the scientific term:

- 1- The system (sphere) that includes fresh water and salt water. (Hydrosphere)
- 2- The system of Earth which contains all different landforms. (Geosphere)
- 3- The large sheet of ice or snow that moves slowly over Earth's surface. (Glacier)
- 4- The Earth's system which consists of a mixture of gases surrounding Earth. (Atmosphere)
- 5- A cycle shows the continuous movement of water from the Earth to the atmosphere then to the Earth again. (Water cycle)
- 6- The energy which plays an important role in water cycle in nature. (solar energy)
- 7- The process in which the small particles of rocks are transported from a place to another. (Erosion process)
- 8- A large area of the world that has similar soil, climate, plants and animals. (Biome)
- 9- The area along the coast that disappears at the high tide and appears at the low tide. (Intertidal zones)
- 10- The largest saltwater ecosystems that cover large parts of Earth's surface. (Oceans)
- 11- The basic liquid matter which is needed by humans, animals and plants to survive. (Water)

- 12- A type of water which is suitable for drinking. (Freshwater)
- 13- It is an area of land where all the water flows to a common location usually an ocean, a sea or other large water body. (Watershed)
- 14- They are small water bodies such as small creeks or streams that flow into bigger rivers. (Tributaries)
- 15- A building established across a river which can hold water behind it. (Dam)
- 16- Scientists who work on recycling water in water treatment plants. (Wastewater engineers)

Put (✓) or (x):

- 1) Earth's systems don't interact with each other. (x)
- 2) When wind carries seeds of some plants to new places, an interaction between atmosphere and biosphere can be observed. (✓)
- 3) Rainwater is the only reason for weathering and erosion of rocks on the Earth's surface. (x)
- 4) Water is important for growing of living organisms. (✓)
- 5) Deserts and forests are examples of biomes. (✓)
- 6) Water evaporates from the surface of a lake will move from atmosphere to hydrosphere. (x)
- 7) If there is no hydrosphere, the biosphere will not exist. (✓)
- 8) Water on the Earth is divided into fresh water and salt water. (✓)
- 9) The amount of fresh water on Earth is more than that of salt water. (x)
- 10) Most of the salt water on Earth is found in the form of frozen water. (x)
- 11) The total amount of water on Earth doesn't change. (✓)
- 12) All animals and plants can live in aquatic habitats. (x)
- 13) Some ponds and lakes may dry up in winter months. (x)
- 14) Without water, all forms of life will disappear. (✓)
- 15) There are no living organisms live in the hydrosphere. (x)
- 16) When the amount of water decreases or water get polluted, biosphere will be affected. (✓)

- 17) A river always flows from an area of low place to an area with higher place. (x)
- 18) Wells and springs obtain their water from aquifers. (✓)
- 19) The amount of salt water on the Earth is smaller than the amount of fresh water. (x)
- 20) Some animals and plants live in water. (✓)
- 21) The place where two oceans meet is called an estuary. (x)
- 22) Rivers and streams are freshwater moving bodies. (✓)
- 23) Turning off the water tap, while washing your hair is from the ways to conserve water. (✓)
- 24) We can drink the water of seas. (x)
- 25) Rivers often start in mountains in the form of estuaries. (x)
- 26) Assal lake is surrounded by land and it is a low-lying area. (✓)
- 27) The type of water in lakes is salt water only. (x)
- 28) Upstream is the place where a river starts. (✓)
- 29) Preservation and sustainability are ways to conserve natural resources. (✓)
- 30) Placing many cows in small grass areas is considered as unsustainable situation. (✓)
- 31) Recycling of wastewater means removing waste materials from it. (✓)
- 32) Water is considered as a nonrenewable natural resource. (x)
- 33) Adding some of mud to clear water can pollute it. (✓)
- 34) Wastewater engineers decide where to build water treatment plants. (✓)

Correct the underlined words:

- 1- The system that includes rocks and heavy metals is called hydrosphere. (geosphere)
- 2- Rainwater is a part of biosphere. (hydrosphere)
- 3- Presence of dolphins in oceans represents an interaction between hydrosphere and geosphere. (biosphere)
- 4- A spring flows out from a rock is an example of an interaction between hydrosphere and atmosphere. (geosphere)

- 5- Water can change into water vapor in extreme cold weather. (hot)
- 6- A rat that digs a barrow in the soil is an example of the interaction between biosphere and atmosphere. (geosphere)
- 7- Shallow areas of oceans don't receive sunlight. (Abyssal)
- 8- Abyssal areas of oceans contain coral reefs and intertidal zones. (Shallow)
- 9- Some animals live in bonds such as catfish, and trout. (streams)
- 10- High quality of fresh water leads to the death of marine organisms live in it. (poor)

Give reasons for:

- 1- Water can affect nonliving things like rocks.
 - Because water is responsible for weathering and erosion processes of rocks.
- 2- Hiding of worms inside the soil is an example of an interaction between two Earth's spheres.
 - Because worms belong to biosphere, while soil belongs to geosphere.
- 3- Importance of atmosphere for plants in making their food.
 - Because plants absorb carbon dioxide from air to make their food by photosynthesis.
- 4- Water is important for all plants on Earth.
 - Because plants depend on water to make photosynthesis and grow and some plants live in water.
- 5- Our planet looks like a blue marble from the space.
 - Because nearly three quarters (more than 71 %) of Earth is covered by water.
- 6- More than 50% of known living organisms live in the aquatic environments.
 - Because more than 71 % of Earth is covered by water.
- 7- Most of the fresh water on Earth can't be used for drinking.
 - Because most of fresh water on Earth found in the form of frozen water.
- 8- Not every water source is used as drinking water.
 - Because humans can't drink salt water.

9- Water that forms the hydrosphere is from the renewable resources.

➤ Because it can be replaced through water cycle.

10- No green plants can survive in the abyssal zones of oceans.

➤ Because the abyssal zones don't receive sunlight.

11- We must conserve fresh water.

➤ Because there is a limited amount of freshwater on Earth.

12- You should turn off water tap during brushing your teeth.

➤ To conserve fresh water.

13- Groundwater is called by this name.

➤ Because it is stored in the cracks and spaces of underground rocks.

14- Farms near tributaries may cause water pollution.

➤ Due to using of chemical fertilizers.

15- Countries prevent using or developing natural resources in some protected areas of land.

➤ To preserve natural resources.

What happens if:

1- People don't conserve fresh water.

➤ The amount of freshwater on Earth will decrease.

2- Fresh water of a river when it meets the salt water of a sea.

➤ Estuary is formed.

3- Water is collected in a low-lying area.

➤ A lake is formed.

4- The quality of fresh water becomes poor.

➤ It may causes death and extinction of living organisms.

5- The rate of rainfall increases on a river.

➤ The level of water in river will increase causing flooding.

6- A trash dump is established near a tributary that is connected with a river.

➤ It will cause water pollution.

7- You mix clear water with small amount of mud.

➤ It will become polluted water.

Choose from column (B) what suits it in column (A)

1)

Column A	Column B
1) The word "Geo" refers to	a) water
2) The word "Hydro" refers to	b) Earth
3) The word "Atmos" refers to	c) life
4) The word "bio" refers to	d) vapor

1	2	3	4
b	a	d	c

2)

Column A	Column B
1) Oceans	a) contain fresh water or salt water
2) Lakes	b) contain salt water only.
3) Rivers	c) contain mixture of fresh water and salt water.
4) Estuary	d) contain fresh water only.
5) Groundwater	e) is the water found between pores of rocks below Earth's surface.

1	2	3	4	5
b	a	d	c	e

3)

Column A	Column B
1) A water body that often starts in the mountain as a stream.	a) Estuary
2) It is formed when a river meets a sea.	b) River
3) The large water body that is surrounded by land and formed when water collects in low-lying areas.	c) Wetland
4) The water bodies that surround the continents	d) Lake
5) It is a land area which is partially covered with water.	e) Oceans

1	2	3	4	5
b	a	d	e	c

4)

Column A	Column B
1) Trees	a) Can be used in making plastic.
2) Sustainability	b) Can be used in making paper.
3) Oil products	c) Can be used in making clothes.
4) Cotton	d) The action of control reaching of humans to the natural resources or using them.
5) Preservation	e) Using resources in a way that doesn't negatively affect the future supply of these resources.

1	2	3	4	5
b	e	a	c	d

Cross out the odd words:

- 1- Water – carbon dioxide – oxygen – nitrogen.
- 2- Oceans – Rivers – Rocks– Lakes.
- 3- Ponds – rivers – rains – oceans.
- 4- Gulfs – seas – oceans – rivers.
- 5- Kelp – starfish – Moses fish – Frogs.

G5 unit 2 revision

Choose the correct answer:

- 1- In contact force, the two objects need to each other.
a) attract b) repel c) touch d) break
- 2- A table stands on the ground needs to move.
a) sunlight b) mass c) force d) air
- 3- Wind turbine blades move by the effect of
a) electricity b) gravity c) magnetism d) wind
- 4- Magnetism is a force that attracts objects made of the following materials, except.....
a) iron b) nickel c) wood d) cobalt
- 5- is considered as a type of friction force.
a) air resistance b) gravity c) magnetism d) electricity
- 6- A boy on a slide moves down toward the ground due to the effect of
a) friction force b) gravity c) magnetism d) wind
- 7- Gravitational force of Earth is affected by
a) mass only b) mass and time.
c) distance only d) mass and distance
- 8- Which the following objects has the least attraction force?
a) The moon b) The Earth c) The Sun d) The magnet
- 9- All the following are properties of Earth's gravity, except.....
a) it pushes objects upward b) it affects the moon
c) it pulls objects downward d) it is a type of attraction force.
- 10- All the following are properties of magnetism, except.....
a) it is an invisible force.
b) it happens only between two touched objects.
c) it may be pushing or pulling force.
d) it may push another magnet away.
- 11- When a basketball falls down from a height, it is affected by.....
a) air resistance b) gravity
c) air resistance and friction force d) a and b

23- All the following appear like small light dots in the sky at night, except.....

- a) a satellite b) the moon c) a star d) a meteor

24- When the Earth is between the moon and the Sun, the moon appears in the phase.

- a) half moon b) full moon c) new moon d) crescent

25- is the moon phase at which the edge of the moon's face appears as an illuminated.

- a) Crescent b) Quarter c) Gibbous d) New moon

Complete the following sentences:

- 1-** The object at rest needs to move.
- 2-** Object changes its position, so this object is in a state of
- 3-** The force that is needed to move a small bike isthan that needed to move a truck.
- 4-** The force of magnetism may objects towards the magnet or objects away from it.
- 5-** The direction of force opposes the direction of a body moves through air.
- 6-** Gravity pulls objects toward the of Earth.
- 7-** Anybody that has a mass must have
- 8-** When the distance between the moon and the Earth increases, the gravitational attraction between them
- 9-** If the mass of the moon increases than its real mass, its gravitational attraction will
- 10-** The gravity of Earth is than that of the moon because the Earth has mass.
- 11-** A parachute in air is affected by that acts against the of Earth.
- 12-** The Earth revolves around the Sun in a fixed that has an shape.

- 13- Day and night phenomenon occurs due to the rotation of Earth around its
- 14- When half of Earth faces the Sun so, it has, and the other half has
- 15- The Sun appears as it moves from to
- 16- The solar system consists of star and eight
- 17- Formation of of objects is due to movement of sun across the sky.
- 18- Every night, we can see new stars appear fromdirection.
- 19- The Sun and other stars are made up of gases.
- 20- A constellation consists of a group ofthat form a pattern.
- 21- Ancient Greeks gave constellation its name relative to a mythical
- 22- Planets and can't make their own light.
- 23- Location of in the sky during the year helps us to determine the main of Earth.
- 24- The moon orbits and both of them orbit the
- 25- The Sun is a star that gives out a very big amount of and
- 26- Through the month, we can see different of the moon in the sky.
- 27- is the moon phase at which moon seems completely bright, while is the moon phase at which moon seems completely dark.
- 28- Planetarium are scientists responsible for making amazing realistic show to bring the outer space to Earth.

Write the scientific term:

- 1- The effect that pull or push an object to make it move. (.....)
- 2- The force by which metals are attracted or pulled to a magnet. (.....)
- 3- A type of friction force that opposes the movement of an object as it passes through air. (.....)
- 4- A force that pulls object down toward the ground. (.....)
- 5- A celestial body that orbits the Earth. (.....)
- 6- Celestial bodies that revolve around the Sun in fixed paths.(.....)
- 7- A phenomenon takes place in oceans and seas due to gravity of moon. (.....)
- 8- The law which states that the force of gravity is constant and acts on all objects in the same way. (.....)
- 9- It is an imaginary line that passes through the Earth's two poles. (.....)
- 10- The spinning of Earth on its axis. (.....)
- 11- The orbiting of Earth around the Sun. (.....)
- 12- The phenomenon that occurs when half of the Earth is facing the Sun. (.....)
- 13- A phenomenon that occurs when half of the Earth doesn't receive sunlight. (.....)
- 14- The center of the solar system. (.....)
- 15- The first time piece that is used by ancient Egyptians to know the time. (.....)
- 16- The group of stars that make a certain shape in the sky. (.....)
- 17- They are giant spheres of superhot gases. (.....)
- 18- A special building with dome ceiling and is used to see images of celestial bodies. (.....)

Put (√) or (x):

- 1) Force is the reason of motion of anybody. ()
- 2) Magnet must touch objects to attract them. ()
- 3) The force of magnet is always attraction force only. ()
- 4) Force of gravity can be seen easily, but we cannot see its effects. ()
- 5) Objects are pushed away of each other due to gravity. ()
- 6) Gravity affects the movement of objects. ()
- 7) If two objects don't touch each other, there is no gravity between them. ()
- 8) Small planets have bigger gravity than big planets. ()
- 9) All planets of the solar system rotate around the Sun in one orbit only. ()
- 10) Skydiving sport depends on gravity and air resistance. ()
- 11) Gravity is similar to magnetism because both of them have only pulling force. ()
- 12) Gravity affects only moving objects but doesn't affect the objects at rest. ()
- 13) Gravity is the force that holds all objects in their places. ()
- 14) The direction and mass of an object are changed due to gravity. ()
- 15) If there is no air resistance on Earth, all objects will reach the Earth's surface at the same moment when dropping them from the same height. ()
- 16) Heavier objects reach Earth's surface before smaller objects due to the effect of air resistance. ()
- 17) There is no air in space, so air resistance slows down the movement of objects through space. ()
- 18) The orbit of each planet has an ellipse shape. ()
- 19) The Earth revolves around the Sun once every 24 hours. ()
- 20) All parts of Earth receive sunlight at the same time. ()
- 21) If you change your direction on Earth's surface, the Sun will rise from west. ()
- 22) The Sun rises in the east and sets in the west. ()

- 23) Most stars don't appear moving in the sky. ()
- 24) Earth revolves around the Sun in a fixed path. ()
- 25) We can feel the movement of Earth easily. ()
- 26) All objects on Earth's surface move with the same speed of Earth. ()
- 27) The Sun appears in the same place in the sky all day. ()
- 28) Planets of the solar system rotate on their axes with different speeds. ()
- 29) The position of the shadow of Cairo Tower will not change during the day. ()
- 30) The Sun is the biggest star in the universe. ()
- 31) All celestial bodies make their own light. ()
- 32) The Sun is a medium sized star. ()
- 33) The Sun seems smaller, because it is much farther from Earth than other stars. ()
- 34) Superhot gases of the Sun burn producing heat and light energy. ()
- 35) Constellations have similar shapes in the sky. ()
- 36) The moon seems shiny because it absorbs sunlight. ()
- 37) The moon has only one phase during the lunar month. ()
- 38) At crescent phase, a part of the moon edge appears bright. ()
- 39) The Sun is bigger than the moon. ()
- 40) The atmosphere let all light waves pass to the Earth. ()
- 41) Planetarium has a projector to display pictures on its ceiling. ()

Correct the underlined words:

- 1- Planets in the solar system revolve in fixed orbits due to the friction between the Sun and planets. (.....)
- 2- The gravitational force of Earth to a person in a flying airplane is greater than it when the same person stands on the ground.(.....)
- 3- The change of an object position is called force. (.....)
- 4- Magnetism is a kind of visible force. (.....)
- 5- Air resistance is a type of pulling force. (.....)

- 6- Gravity is attraction or repulsion force between two magnets or between the magnet and an object. (.....)
- 7- Magnetism is the force of attraction that changes the direction of a moving object in air towards the ground. (.....)
- 8- All objects on Earth's surface is affected by repulsion force of gravity. (.....)
- 9- Any object has gravity depending on its length. (.....)
- 10- Air resistance speeds up the object as it falls. (.....)
- 11- The Earth's gravity keeps all planets in their orbits. (.....)
- 12- Gravity is the attraction or pulling force that keeps all stars in their orbits around the Sun. (.....)
- 13- The Earth orbits the Sun in a rectangular path. (.....)
- 14- The time taken by Earth to complete one rotation on its axis is called year. (.....)
- 15- The Earth's axis is a real line passes through Earth's poles. (.....)
- 16- Earth rotates on its axis at low speed. (.....)
- 17- At the beginning of the day, the Sun appears in the west direction. (.....)
- 18- In the early morning, the Sun would be above you in the center of the sky. (.....)
- 19- Planets are celestial bodies that make their own light. (.....)
- 20- Constellations have similar shapes in the sky. (.....)
- 21- Stars are made up of hot liquids. (.....)
- 22- The moon takes one lunar year to complete one cycle around the Earth. (.....)
- 23- At the gibbous phase, one edge only appears bright. (.....)

Give reasons for:

- 1- Paper clips (or iron nails) are pulled toward the magnet.
➤
- 2- When using the bicycle brake, the bicycle stops.
➤

3- The ball changes its direction after we throw it upwards.

➤

4- The moon is attracted to Earth.

(The moon stays in fixed orbit around Earth)

➤

5- Gravity of Earth is greater than gravity of the moon.

➤

6- The astronauts float in space.

➤

7- The force of gravity has an important role in the solar system.

➤

8- Planets revolve around the Sun in fixed orbits.

➤

9- Air resistance affects the movement of an object which falls from a height.

➤

10- Skydiver opens his parachute during landing.

➤

11- A pencil takes a longer time to reach Earth's surface than a large rock if they are thrown from the same height.

➤

12- Occurrence of day and night.

➤

13- Half of Earth appears dark at night.

➤

14- Occurrence of the four seasons.

➤

15- The Sun appears as it moves in the sky.

(In the night sky, some stars seem to rise and set like the Sun.)

➤

16- Although Earth rotates on its axis, we don't feel its movement.

➤

17- The length of the shadow of an object changes throughout the day.

➤

18- The sun is a star.

➤

19- The Sun looks much larger to us than other stars.

➤

20- The moon appears bright in the sky at night.

➤

21- Earth and the moon are not considered stars.

➤

22- The moon has different phases in the night sky.

➤

23- Atmosphere limits the using of some telescopes to see distant celestial bodies.

➤

What happens if:

1- Skydiver opens his parachute during landing.

➤

2- The mass of the moon decreases to half.

➤

3- There is no gravity on Earth.

➤

4- The gravity of Earth is a repulsion force not an attraction force.

➤

5- If the gravity between Earth and the moon disappears.

➤

6- The gravity of the Sun disappears.

➤

7- A metal ball and a feather are fallen down from a tower.

➤

8- You throw two iron balls have the same mass from the same height.

➤

9- There is no resistance and two objects with different masses are thrown from the same height.

➤

10- Earth doesn't rotate on its axis. (Earth stops spinning on its axis.)

➤

11- Half of Earth faces the sun.

➤

12- Earth doesn't revolve around the sun.

➤

13- The shadow of an object if the Sun locates at east or west in the sky.

➤

14- Stars are not made up of hot gases.

➤

15- The Earth is located between the moon and the Sun.

➤

Choose from column (B) what suits it in column (A)

1)

Column A	Column B
1) The force that arises between two objects when they touch each other.	a) Gravity
2) The force acts on all objects on Earth.	b) Contact force
3) The force between two objects that don't touch each other.	c) Friction force
4) The force opposes and slows down the movement of an object.	d) Non contact force

1	2	3	4
.....			

2)

Column A	Column B
1) Jupiter	a) is the path in which planets revolve around the Sun
2) Earth	b) is the fastest planet that rotates on its axis.
3) Orbit	c) Consists of sun and planets.
4) Solar system	d) is the planet that completes one cycle on its axis in 24 hours.
5) Cycle	e) The series of events that is repeated in the same order.

1	2	3	4	5
.....				

3)

Column A	Column B
1) Scientists who study the properties and behavior of celestial bodies in the space.	a) Galaxy
2) Tools help scientists to see distant objects in space with more details.	b) Atmosphere
3) A group of stars, planets and gases held together by gravity.	c) Planetarium directors
4) The wide space that contains celestial bodies as stars, galaxies, comets and meteors.	d) Galileo binoculars and Hubble space telescope
5) A protective layer around Earth that allows some light waves to pass and block the others.	e) The Universe

1	2	3	4	5
.....				

Cross out the odd words:

- 1- Gravity – Sun – Friction force – Magnetism.
- 2- Earth – Jupiter – The Sun – The moon.
- 3- Crescent – Full moon – Shadow – Gibbous.

G5 unit 2 revision (answers)

Choose the correct answer:

- 1- In contact force, the two objects need to each other.
a) attract b) repel c) touch d) break
- 2- A table stands on the ground needs to move.
a) sunlight b) mass c) force d) air
- 3- Wind turbine blades move by the effect of
a) electricity b) gravity c) magnetism d) wind
- 4- Magnetism is a force that attracts objects made of the following materials, except.....
a) iron b) nickel c) wood d) cobalt
- 5- is considered as a type of friction force.
a) air resistance b) gravity c) magnetism d) electricity
- 6- A boy on a slide moves down toward the ground due to the effect of
a) friction force b) gravity c) magnetism d) wind
- 7- Gravitational force of Earth is affected by
a) mass only b) mass and time.
c) distance only d) mass and distance
- 8- Which the following objects has the least attraction force?
a) The moon b) The Earth c) The Sun d) The magnet
- 9- All the following are properties of Earth's gravity, except.....
a) it pushes objects upward b) it affects the moon
c) it pulls objects downward d) it is a type of attraction force.
- 10- All the following are properties of magnetism, except.....
a) it is an invisible force.
b) it happens only between two touched objects.
c) it may be pushing or pulling force.
d) it may push another magnet away.
- 11- When a basketball falls down from a height, it is affected by.....
a) air resistance b) gravity
c) air resistance and friction force d) a and b

- 12- The Earth rotates around itself once every
 a) 24 hours b) 365 days c) 365 hours d) 24 days
- 13- The Earth's axis is
 a) real vertical b) imaginary horizontal
 c) real horizontal d) imaginary vertical
- 14- The Earth rotates on its axis.
 a) clock wise b) from north to south
 c) counterclockwise d) from south to north
- 15- The Sun appears in the during the early morning.
 a) east b) west c) north d) south
- 16- Rotation of Earth on its axis causes all the following phenomena, except
 a) movement of the Sun from east to west.
 b) movement of stars in the sky at night.
 c) some stars seem to rise and set like the Sun.
 d) occurrence of four seasons.
- 17- In the middle of the day (at noon) we can see the Sun in of the sky.
 a) the left side b) the right side
 c) above in the center d) the west direction
- 18- The shortest shadow of an object happens
 a) in morning b) in afternoon c) at noon d) at night
- 19- The Sun forms longer shadow of object
 a) in morning b) in afternoon c) at noon d) a and b
- 20- The position of the Sun in the sky affectsand of shadows of objects.
 a) lengths and speed b) angles and time
 c) lengths and angles d) speed and time
- 21- We can't send astronauts to study stars because they are
 a) so cold b) faraway c) too small d) too large
- 22- Constellations appear in the sky during the year.
 a) at different positions b) at the same position
 c) in winter only d) in summer only

23- All the following appear like small light dots in the sky at night, except.....

- a) a satellite b) the moon c) a star d) a meteor

24- When the Earth is between the moon and the Sun, the moon appears in the phase.

- a) half moon b) full moon c) new moon d) crescent

25- is the moon phase at which the edge of the moon's face appears as an illuminated.

- a) Crescent b) Quarter c) Gibbous d) New moon

Complete the following sentences:

- 1- The object at rest needs force to move.
- 2- Object changes its position, so this object is in a state of motion.
- 3- The force that is needed to move a small bike is smaller than that needed to move a truck.
- 4- The force of magnetism may pull objects towards the magnet or push objects away from it.
- 5- The direction of friction force opposes the direction of a body moves through air.
- 6- Gravity pulls objects toward the center of Earth.
- 7- Anybody that has a mass must have gravity.
- 8- When the distance between the moon and the Earth increases, the gravitational attraction between them decreases.
- 9- If the mass of the moon increases than its real mass, its gravitational attraction will increase.
- 10- The gravity of Earth is greater than that of the moon because the Earth has larger mass.
- 11- A parachute in air is affected by air resistance that acts against the gravity of Earth.
- 12- The Earth revolves around the Sun in a fixed orbit that has an oval shape.

- 13- Day and night phenomenon occurs due to the rotation of Earth around its axis.
- 14- When half of Earth faces the Sun so, it has day, and the other half has night.
- 15- The Sun appears as it moves from east to west.
- 16- The solar system consists of one star and eight planets.
- 17- Formation of shadow of objects is due to movement of sun across the sky.
- 18- Every night, we can see new stars appear from east direction.
- 19- The Sun and other stars are made up of hot gases.
- 20- A constellation consists of a group of stars that form a pattern.
- 21- Ancient Greeks gave constellation Orion its name relative to a mythical hunter.
- 22- Planets and moon can't make their own light.
- 23- Location of constellations in the sky during the year helps us to determine the main directions of Earth.
- 24- The moon orbits Earth and both of them orbit the sun.
- 25- The Sun is a star that gives out a very big amount of light and heat.
- 26- Through the month, we can see different phases of the moon in the sky.
- 27- Full moon is the moon phase at which moon seems completely bright, while new moon is the moon phase at which moon seems completely dark.
- 28- Planetarium directors are scientists responsible for making amazing realistic show to bring the outer space to Earth.

Write the scientific term:

- 1- The effect that pull or push an object to make it move. (Force)
- 2- The force by which metals are attracted or pulled to a magnet. (Magnetism)
- 3- A type of friction force that opposes the movement of an object as it passes through air. (Air resistance)
- 4- A force that pulls object down toward the ground. (Gravity)
- 5- A celestial body that orbits the Earth. (Moon)

- 6- Celestial bodies that revolve around the Sun in fixed paths. (**Planets**)
- 7- A phenomenon takes place in oceans and seas due to gravity of moon. (**Ocean tides**)
- 8- The law which states that the force of gravity is constant and acts on all objects in the same way. (**Law of motion**)
- 9- It is an imaginary line that passes through the Earth's two poles. (**Earth's axis**)
- 10- The spinning of Earth on its axis. (**Earth's rotation**)
- 11- The orbiting of Earth around the Sun. (**Earth's revolution**)
- 12- The phenomenon that occurs when half of the Earth is facing the Sun. (**Day**)
- 13- A phenomenon that occurs when half of the Earth doesn't receive sunlight. (**Night**)
- 14- The center of the solar system. (**The sun**)
- 15- The first time piece that is used by ancient Egyptians to know the time. (**Sundial**)
- 16- The group of stars that make a certain shape in the sky. (**Constellation**)
- 17- They are giant spheres of superhot gases. (**Stars**)
- 18- A special building with dome ceiling and is used to see images of celestial bodies. (**Planetarium**)

Put (✓) or (x):

- 1) Force is the reason of motion of any body. (✓)
- 2) Magnet must touch objects to attract them. (x)
- 3) The force of magnet is always attraction force only. (x)
- 4) Force of gravity can be seen easily, but we cannot see its effects. (x)
- 5) Objects are pushed away of each other due to gravity. (x)
- 6) Gravity affects the movement of objects. (✓)
- 7) If two objects don't touch each other, there is no gravity between them. (x)
- 8) Small planets have bigger gravity than big planets. (x)

- 9) All planets of the solar system rotate around the Sun in one orbit only. (x)
- 10) Skydiving sport depends on gravity and air resistance. (✓)
- 11) Gravity is similar to magnetism because both of them have only pulling force. (x)
- 12) Gravity affects only moving objects but doesn't affect the objects at rest. (x)
- 13) Gravity is the force that holds all objects in their places. (✓)
- 14) The direction and mass of an object are changed due to gravity. (x)
- 15) If there is no air resistance on Earth, all objects will reach the Earth's surface at the same moment when dropping them from the same height. (✓)
- 16) Heavier objects reach Earth's surface before smaller objects due to the effect of air resistance. (✓)
- 17) There is no air in space, so air resistance slows down the movement of objects through space. (x)
- 18) The orbit of each planet has an ellipse shape. (✓)
- 19) The Earth revolves around the Sun once every 24 hours. (x)
- 20) All parts of Earth receive sunlight at the same time. (x)
- 21) If you change your direction on Earth's surface, the Sun will rise from west. (x)
- 22) The Sun rises in the east and sets in the west. (✓)
- 23) Most stars don't appear moving in the sky. (x)
- 24) Earth revolves around the Sun in a fixed path. (✓)
- 25) We can feel the movement of Earth easily. (x)
- 26) All objects on Earth's surface move with the same speed of Earth. (✓)
- 27) The Sun appears in the same place in the sky all day. (x)
- 28) Planets of the solar system rotate on their axes with different speeds. (✓)
- 29) The position of the shadow of Cairo Tower will not change during the day. (x)
- 30) The Sun is the biggest star in the universe. (x)

- 31) All celestial bodies make their own light. (x)
- 32) The Sun is a medium sized star. (✓)
- 33) The Sun seems smaller, because it is much farther from Earth than other stars. (x)
- 34) Superhot gases of the Sun burn producing heat and light energy. (✓)
- 35) Constellations have similar shapes in the sky. (x)
- 36) The moon seems shiny because it absorbs sunlight. (x)
- 37) The moon has only one phase during the lunar month. (x)
- 38) At crescent phase, a part of the moon edge appears bright. (✓)
- 39) The Sun is bigger than the moon. (✓)
- 40) The atmosphere let all light waves pass to the Earth. (x)
- 41) Planetarium has a projector to display pictures on its ceiling. (✓)

Correct the underlined words:

- 1- Planets in the solar system revolve in fixed orbits due to the friction between the Sun and planets. (gravity)
- 2- The gravitational force of Earth to a person in a flying airplane is greater than it when the same person stands on the ground. (smaller)
- 3- The change of an object position is called force. (motion)
- 4- Magnetism is a kind of visible force. (invisible)
- 5- Air resistance is a type of pulling force. (pushing)
- 6- Gravity is attraction or repulsion force between two magnets or between the magnet and an object. (Magnetism)
- 7- Magnetism is the force of attraction that changes the direction of a moving object in air towards the ground. (Gravity)
- 8- All objects on Earth's surface is affected by repulsion force of gravity. (attraction)
- 9- Any object has gravity depending on its length. (mass)
- 10- Air resistance speeds up the object as it falls. (slows)
- 11- The Earth's gravity keeps all planets in their orbits. (sun)
- 12- Gravity is the attraction or pulling force that keeps all stars in their orbits around the Sun. (planets)
- 13- The Earth orbits the Sun in a rectangular path. (an oval)

- 14- The time taken by Earth to complete one rotation on its axis is called year. (day)
- 15- The Earth's axis is a real line passes through Earth's poles. (an imaginary)
- 16- Earth rotates on its axis at low speed. (high)
- 17- At the beginning of the day, the Sun appears in the west direction. (east)
- 18- In the early morning, the Sun would be above you in the center of the sky. (At noon)
- 19- Planets are celestial bodies that make their own light. (Stars)
- 20- Constellations have similar shapes in the sky. (different)
- 21- Stars are made up of hot liquids. (gases)
- 22- The moon takes one lunar year to complete one cycle around the Earth. (month)
- 23- At the gibbous phase, one edge only appears bright. (crescent)

Give reasons for:

- 1- Paper clips (or iron nails) are pulled toward the magnet.
 - Due to the force of magnetism.
- 2- When using the bicycle brake, the bicycle stops.
 - Due to the friction force between the brake and the tires.
- 3- The ball changes its direction after we throw it upwards.
 - Due to the effect of Earth's gravity that pulls objects downward.
- 4- The moon is attracted to Earth.
 - (The moon stays in fixed orbit around Earth)
 - Due to the effect of Earth's gravity.
- 5- Gravity of Earth is greater than gravity of the moon.
 - Because the mass of Earth is greater than that of the moon.
- 6- The astronauts float in space.
 - Due to the absence of gravity.
- 7- The force of gravity has an important role in the solar system.
 - Because it keeps the planets revolve around the sun in fixed orbit.

8- Planets revolve around the Sun in fixed orbits.

➤ Due to the strongest gravity of the sun.

9- Air resistance affects the movement of an object which falls from a height.

➤ Because it slows down the movement of objects.

10- Skydiver opens his parachute during landing.

➤ To slow down his speed on landing due to air resistance.

11- A pencil takes a longer time to reach Earth's surface than a large rock if they are thrown from the same height.

➤ Because the pencil is affected by more air resistance.

12- Occurrence of day and night.

➤ Due to rotation of Earth on its axis.

13- Half of Earth appears dark at night.

➤ Because it doesn't receive sunlight.

14- Occurrence of the four seasons.

➤ Due to revolution of Earth around the Sun.

15- The Sun appears as it moves in the sky.

(In the night sky, some stars seem to rise and set like the Sun.)

➤ Due to rotation of Earth on its axis.

16- Although Earth rotates on its axis, we don't feel its movement.

➤ Because we move with the same speed of Earth.

17- The length of the shadow of an object changes throughout the day.

➤ Due to the change in the position of the Sun in the sky.

18- The sun is a star.

➤ Because it made up of hot gases and gives out light.

19- The Sun looks much larger to us than other stars.

➤ Because it is the closest star to Earth.

20- The moon appears bright in the sky at night.

➤ Because it reflects sunlight.

21- Earth and the moon are not considered stars.

➤ Because they can't make their own light.

22- The moon has different phases in the night sky.

➤ Because the moon orbits Earth and both of them orbit the sun.

23- Atmosphere limits the using of some telescopes to see distant celestial bodies.

➤ Because it allows some light waves to pass and block the others

What happens if:

1- Skydiver opens his parachute during landing.

➤ His speed will decrease gradually.

2- The mass of the moon decreases to half.

➤ The gravity of the moon will decrease.

3- There is no gravity on Earth.

➤ All objects on Earth will float into space.

4- The gravity of Earth is a repulsion force not an attraction force.

➤ All objects will move upward away from Earth's surface.

5- If the gravity between Earth and the moon disappears.

➤ The moon will float off into space.

6- The gravity of the Sun disappears.

➤ Planets will float off into space randomly.

7- A metal ball and a feather are fallen down from a tower.

➤ The metal ball will reach the ground first.

8- You throw two iron balls have the same mass from the same height.

➤ They will reach the ground at the same time.

9- There is no resistance and two objects with different masses are thrown from the same height.

➤ They will reach the ground at the same time.

10- Earth doesn't rotate on its axis. (Earth stops spinning on its axis.)

➤ The cycle of day and night will not happen.

11- Half of Earth faces the sun.

➤ This part has a day.

12- Earth doesn't revolve around the sun.

➤ The cycle of seasons will not happen.

13- The shadow of an object if the Sun locates at east or west in the sky.

➤ The shadow of object will be longer.

14- Stars are not made up of hot gases.

➤ They can't make their own light.

15- The Earth is located between the moon and the Sun.

➤ Full moon phase occurs where it appears completely bright.

Choose from column (B) what suits it in column (A)

1)

Column A	Column B
1) The force that arises between two objects when they touch each other.	a) Gravity
2) The force acts on all objects on Earth.	b) Contact force
3) The force between two objects that don't touch each other.	c) Friction force
4) The force opposes and slows down the movement of an object.	d) Non contact force

1	2	3	4
b	a	d	c

2)

Column A	Column B
1) Jupiter	a) is the path in which planets revolve around the Sun
2) Earth	b) is the fastest planet that rotates on its axis.
3) Orbit	c) Consists of sun and planets.
4) Solar system	d) is the planet that completes one cycle on its axis in 24 hours.
5) Cycle	e) The series of events that is repeated in the same order.

1	2	3	4	5
b	d	a	c	e

3)

Column A	Column B
1) Scientists who study the properties and behavior of celestial bodies in the space.	a) Galaxy
2) Tools help scientists to see distant objects in space with more details.	b) Atmosphere
3) A group of stars, planets and gases held together by gravity.	c) Planetarium directors
4) The wide space that contains celestial bodies as stars, galaxies, comets and meteors.	d) Galileo binoculars and Hubble space telescope
5) A protective layer around Earth that allows some light waves to pass and block the others.	e) The Universe

1	2	3	4	5
c	d	a	e	b

Cross out the odd words:

1- Gravity – Sun – Friction force – Magnetism.

2- Earth – Jupiter – The Sun – The moon.

3- Crescent – Full moon – Shadow – Gibbous.

حمل الآن

مجاناً وحصرياً

المراجعة رقم (4)

الترم الثاني





Final Revision

★ (1) Write the scientific term:

Mr. Ahmed ElBasha

- 1) They are giant spheres of superhot gases. (.....)
- 2) A dark object that revolves around Earth and reflects the sunlight falling on its surface. (.....)
- 3) An imaginary line that passes through the two poles of Earth. (.....)
- 4) A type of water which represents 3.5% of water area on the Earth's surface. (.....)
- 5) The Sun and eight planets revolving around it. (.....)
- 6) It is a group of stars, planets and gases held together by gravity. (.....)
- 7) It is a pull or push that affects an object. (.....)
- 8) It is a group of stars that forms a pattern or looks like a certain shape in the sky. (.....)
- 9) It is a force that pulls objects down toward the Earth's center. (.....)
- 10) An invisible force that attracts metal objects to the magnet. (.....)
- 11) A water body that surrounded by land. (.....)
- 12) It is a phenomenon that takes place in oceans and seas due to the gravity of the moon. (.....)
- 13) It is the breakdown of rocks by wind or water. (.....)
- 14) It is a force that slows down moving objects and opposes their motion. (.....)

- 15) It is a dark celestial body that revolves around the Earth and reflects the sunlight. (.....)
-
- 16) It is a phenomenon that occurs when the Earth rotates on its axis. (.....)
-
- 17) It is a system that is formed of the Sun and eight planets revolving around it. (.....)
-
- 18) They are bodies of water that surround the continents. (.....)
-
- 19) It is an area where the fresh water of a river meets the salty water of a sea. (.....)
-
- 20) It is the type of water that forms about 96.5% of Earth. (.....)
-
- 21) It is the water that is stored in the cracks and spaces between underground rocks. (.....)
-
- 22) It is a celestial body that orbits around the Earth. (.....)
-
- 23) It is a land area which is partially covered with water. (.....)
-
- 24) It's the system that includes all the gases that surround the Earth (.....)
-
- 25) The tool that is used by sky diver to slow his drop. (.....)
-
- 26) A type of water which is suitable for drinking. (.....)
-

***(2) Choose the right answer :**

1. Which of the following is a part of the biosphere ?

- a. Ice. b. Clouds. c. Animals. d. Water.

2. We can see thousands of in the sky at night that give off heat and light.

- a. moons b. stars c. planets d. satellites

3. All the following materials can be used to filter wastewater in simple water filter, except

- a. cotton. b. wood. c. charcoal. d. sand.

4. There is a/an between Nile River and Mediterranean sea.

- a. lake b. wetland c. estuary d. ocean

5. Our solar system contains

- a. one star. b. one planet. c. one moon. d. no stars.

6. The amount of salt water on the Earth is the amount of fresh water.

- a. larger than b. smaller than c. equal to d. half

7. Magnetism is a force that attracts objects made of all the following, except

- a. Iron. b. copper. c. nickel. d. cobalt.

8. A group of plants and animals which live together in a large area is called

- a. hydrosphere. b. atmosphere. c. geosphere. d. biome.

9. In the last day of the lunar month, the moon is

- a. full moon. b. bright moon. c. new moon. d. crescent

10. Moon appears as a completely bright circle at phase.

- a. full moon b. dark moon c. new moon d. crescent

11. The day and night phenomenon occurs due to the rotation of the Earth around

- a. the Sun b. its axis
c. the moon d. the solar system

12. is/are part(s) of the hydrosphere.

- a. Water b. Air c. Rocks d. Plants

13. Among the sources of fresh water are

- a. oceans b. seas c. rivers d. salty lakes

14. Gravity makes the moon revolve around

- a. the Sun b. the Earth c. itself d. another moon

15. Mountains and valleys are parts of the

- a. biosphere b. atmosphere
c. geosphere d. hydrosphere

16. are formed when water collects in low-lying areas.

- a. Seas b. Lakes c. Rivers d. Oceans

17..... is considered a type of friction force.

- a. Air resistance b. Gravity c. Magnetism d. Electricity

18.Air resistance is a type of force.

- a. friction b. gravity c. repulsion d. pulling

19.The gravitational force of an object as its mass decreases.

- a. equals zero b. decreases
c. increases d. doesn't change

20.A table standing on the ground needs to move.

- a. sunlight b. mass c. force d. air

21.Which of the following is a part of the biosphere?

- a. Ice b. Clouds c. Water d. Animals

22.A group of stars that makes a certain shape in the sky is called

- a. solar system b. universe c. constellation d. ecosystem

23.The presence of sharks in oceans represents an interaction between theand the

- a. geosphere - biosphere b. atmosphere - hydrosphere
c. hydrosphere - biosphere d. geosphere - atmosphere

24.Friction force the movement of objects.

- a. slows down b. speeds up
c. increases d. doesn't affect

25.Which of the following is a part of the geosphere ?

- a. Rocks b. Clouds c. Water d. Animals

26.From the materials that are attracted to the magnet are

- a. iron and nickel b. aluminum and copper
c. copper and silver d. silver and gold

27.Rocks are broken down into smaller particles during the process.

- a. photosynthesis b. weathering
c. erosion d. respiration

28..... is a land partially covered with water.

- a. An ocean b. A wetland c. an estuary d. A lake

29.The gravity of affects the ocean tides on the Earth.

- a. the Sun b. the moon c. Mars d. Jupiter

30.If the distance between the Earth and the moon decreases, the gravity between them

- a. decreases b. increases c. doesn't change

31.The center of the solar system is the

- a. Sun b. Earth c. moon

32. Earth attracts the objects towards

- a. the sky. b. its center. c. the moon. d. the Sun

33. gives heat and light.

- a. Stars b. Moons c. Plants d. Satellites

34. Mountains and valleys are parts of

- a. atmosphere. b. biosphere.
c. geosphere. d. hydrosphere.

35. includes all the gases that surround Earth.

- a. Geosphere b. Biosphere c. Hydrosphere d. Atmosphere

36. is a water body that always flows from high place to low place.

- a. River b. Sea c. Lake d. Ocean

37. Rocks and minerals are from

- a. atmosphere. b. biosphere. c. geosphere

38. Which of the following is part of the atmosphere?

- a. Oxygen b. Rocks c. Fish d. Dogs

39. The gravity force depends on the of an object.

- a. mass b. temperature c. size d. color

40. The number of stars in the solar system is

- a. one b. eight c. nine d. two

41. The large sheets of ice or snow that moves slowly over the Earth's surface are called ..

- a. minerals b. glaciers c. rocks d. biosphere

42. As the mass of the object increases , its increases.

- a. movement b. force c. gravity d. illumination

43. Which of the following is found between porous of rocks below Earth's surface?

- a. Oceans. b. Ice. c. Groundwater. d. Water vapor.

44. are celestial bodies that makes their own light.

- a. Stars only b. Moons and stars
c. Earth and moons d. Earth and stars

45. The imaginary line that passes through Earth's center is called

- a. the day. b. the axis. c. the night. d. the pole.

46. Rocks are broken down into smaller particles during process.

- a. photosynthesis b. weathering c. erosion d. respiration

47. By heating of water it changes from state to state

- a. solid - liquid. b. liquid - solid. c. liquid - gas. d. gas - liquid.

48. The level of water in a river may increase causing flooding, when there is more

- a. rainfall. b. wind. c. sunlight. d. sediments.

49. Plastic cup is made from products.

- a. plant b. animal c. oil d. human

50. Friction force the movement of objects.

- a. slows down b. increases c. speeds up d. doesn't affect.

51. Gravitational force of Earth is affected by

- a. mass and time. b. mass and distance.
c. mass only. d. distance only.

52. Orbiting of Earth around the Sun causes the

- a. cycle of day and night. b. cycle of seasons.
c. increasing the speed of Earth. d. decreasing the speed of Earth.

53. The magnet attracts paper clips due to

- a. gravity b. magnetism c. friction d. air resistance

***(3) Complete the following:**

1. Any object has gravity depending on its and away from the Earth.
2. The land that is partially covered with water is called
3. Cotton, and can be used in making a simple water filter.
4. The gravity of Earth is than that of the moon because the Earth has mass.
5. Most of the fresh water on Earth is found in the form of frozen water called
6. The percentage of salty water is about % of the hydrosphere.
7. Rocks and mountains are from the Earth's system.
8. Planets revolve around the Sun under the effect of
9. 96.5% of the Earth's water is water
10. Water is renewed in nature through
11. The gravity of an object increases as its increases.
12. The cycle of happens due to Earth's revolution around the Sun.
13. Earth rotates around itself every hours.
14. The Sun is located in the center of
15. Air resistance is a type of force.
16. The moon moves around due to gravity.
17. The wide space that contains celestial object is called
18. force opposes the motion of the body and slows down its speed.
19. To conserve water, we can time of washing our hands.
20. Force may push or the object to make it move.
21. Magnet can attract some objects by a force called
22. The groundwater found in soil and rocks is an example of interaction between two spheres which are and
23. Rivers contain water, while oceans contain water.
24. Cycle of happens due to Earth's rotation on its axis
25. The moon reflects the light of

✱(4) Correct the underline:

1	Stars are made up of hot <u>liquids</u> .	(.....)
2	The Sun is a <u>planet</u> that can give out light	(.....)
3	The nitrogen in air is part of the <u>geosphere</u>	(.....)
4	When water freezes, it changes to <u>water vapor</u>	(.....)
5	A rat that digs a burrow in the soil is an example of the interaction between biosphere and <u>atmosphere</u> .	(.....)
6	The only star in the solar system is the <u>Earth</u> .	(.....)
7	The phenomenon of <u>four seasons</u> occurs due to rotation of Earth on its axis.	(.....)
8	Any object on Earth's surface is affected by <u>repulsion</u> force of gravity.	(.....)
9	Plastic is made from <u>wood of trees</u> .	(.....)
10	When a river meets a sea, <u>a lake</u> is formed.	(.....)
11	<u>Biosphere</u> includes all the gases that surround Earth.	(.....)
12	The Earth spins around <u>the Sun</u> once every 24 hours.	(.....)
13	The center of the solar system is the <u>Earth</u> .	(.....)
14	During the water cycle in nature, water evaporates into water vapor, forming <u>rains</u> .	(.....)
15	<u>Shallow</u> areas of oceans don't receive sunlight.	(.....)
16	The gravity of <u>the Sun</u> affects the ocean tides.	(.....)
17	The type of water in rivers is <u>salty</u> water.	(.....)

***(5) Put ($\sqrt{\quad}$) or (X) :**

1. Rivers and streams are running freshwater bodies. ()
2. Cotton can be used as a filter to remove some waste materials from water. ()
3. Earth revolves around the Sun in a fixed path. ()
4. The Sun appears to move throughout the day. ()
5. Recycling of wastewater means removing waste materials from it. ()
6. In the full moon phase, we can't see the moon in the sky. ()
7. The solar system doesn't contain any stars. ()
8. The gravity of the Sun affects the ocean tides. ()
9. Earth's systems don't interact with each other. ()
10. The Sun revolves around the Earth. ()
11. Some animals and plants live in water. ()
12. Tides are affected by the gravity of the moon. ()
13. The Sun rises in the west. ()
14. Salt water represents 96.5 % of the water on Earth. ()
15. The frozen water on Earth is a part of the geosphere. ()
16. Without the gravity of the Sun, the planets would float off into space ()
17. Gravity pulls objects towards the center of the Earth. ()
18. A river flows from an area of a lower place to an area of a higher place ()
19. An estuary is formed when salt water mixes with fresh water. ()
20. The Earth's revolution around the Sun causes day and night. ()
21. The Sun is the biggest star in the universe. ()
22. Constellations have similar Shapes in the sky. ()
23. You must decrease the time of taking a shower to conserve fresh water. ()
24. Living organisms need water to drink. ()
25. Gravity depends on an object's mass and distance ()
26. The sequence of day and night is due to the rotation of Earth around its axis. ()
27. Water that covers most of the Earth's surface is fresh water in rivers. ()
28. Air resistance speeds up a falling parachute downward. ()
29. All parts of the Earth receive sunlight at the same time. ()
30. The Earth takes (12) hours to make a complete cycle on its axis. ()

31. Lakes, oceans and rivers are included in hydrosphere.	()
32. Rains and glaciers are parts of the hydrosphere as they contain fresh water.	()
33. The Earth revolves around the Sun twice every whole year.	()
34. Magnetism is a type of friction force.	()
35. Earth revolves around the Sun once every 24 hours.	()
36. Gases which surround the Earth represent the atmosphere.	()
37. The moon and stars make their own light.	()
38. Among the sources of fresh water are rains.	()
39. Air resistance slows down the speed of parachutes.	()
40. Atmosphere is the system that is composed of mixture of gases.	()
41. Oceans contain a large amount of fresh water.	()
42. Rocks are parts of the geosphere.	()
43. Fresh water forms 55% of hydrosphere.	()
44. The moon reflects sunlight that falls on it.	()
45. All living organisms need water to survive.	()
46. There are no living organisms live in the hydrosphere.	()
47. The orbit of each planet has an ellipse shape.	()
48. The Sun appears in the same place in the sky all day.	()
49. The length of day and night are always equal during the whole year.	()
50. Stars are made up of hot gases.	()
51. Oceans always contain fresh water.	()

✱(6) Give a reason for:

1. The Sun appears larger and brighter than other stars.

.....

2. Not every water source is used as drinking water.

.....

3. We should turn off water during washing dishes.

.....

4. Our planet looks like a blue marble from the space.

.....

5. Occurrence of day and night phenomenon.

.....

6. Stars appear bright in the sky at night.

.....

7. The moon appears bright in the sky at night.

.....

8. Astronauts float into space.

.....

9. No green plants can survive in the abyssal zones of oceans.

.....

10. Occurrence of seasons on Earth.

.....

11. The moon is a dark body but we see it shiny at night.

.....

12. Gravity of Earth is greater than gravity of the moon.

.....

13. We must conserve fresh water.

.....

14. The atmosphere is very important for plants.

.....

15. The moon has different phases during the lunar month.

.....

✱(7) What happens when ... ?

1. Plants can't get carbon dioxide gas from air.

.....

2. Earth stops spinning on its axis.

.....

3. Binoculars and telescopes were not invented.

.....

4. Water is collected in a low-lying area.

.....

5. Earth doesn't rotate on its axis.

.....

6. Fresh water of a river meets the salt water of a sea.

.....

7. The rate of rainfall increases on a river.

.....

8. To the animals that live in lakes if they dry up.

.....

9. When the Earth rotates around its axis.

.....

10.To the speed of skydiver if he opens his parachute during landing.

.....

11.People don't conserve fresh water.

.....

12.Half of the Earth faces the Sun.

.....

13.The quality of fresh water becomes poor.

.....

14.The planets if the Sun has no gravity.

.....

(8) Complete the following sentences using the words below:*1. (Pulling - lunar month - Biosphere - constellation - gravity)**

1. The Earth's system that includes all living organisms is called
2. Objects move down from high places toward the ground due to the effect of
3. The group of stars that make a certain shape in the sky is called
4. The moon phases are repeated every
5. The force of gravity is always force.

2. (electricity - atmosphere - lithosphere - air resistance - friction)

1. Geosphere is also known as
2. The force that opposes the movement of objects as they pass through air is called
3. In High Dam, water is used to generate
4. The protective layer around the Earth that allows some light waves to pass and blocks others, is known as
5. The force that slows down the movement of objects across solids, liquids or gases is called

3. (fresh - friction - harmful - solar system - an estuary)

1. We must take a quick shower to conserve water .
2. When a river meets a sea is formed.
3. The contains the Sun and eight planets revolving around it.
4. Water filters are used to remove materials from the polluted water.
5. is a force generated between two touching surfaces.

4. (gravity - east – Earth - biosphere - rivers)

1. Microorganisms are parts of the
2. Among the sources of fresh water are
3. The moon moves around the due to gravity.
4. In the early morning, the Sun would be at the direction in the sky.
5. The force of keeps the planets revolving around the sun.

5. (galaxy - geosphere - force - wetland)

1. The land that is partially covered with water is called a
2. A group of stars, planets and gases held together by gravity is called
3. The Earth's sphere that contains rocks, sand and soil is
4. The object at rest needs a to move.

6. (estuary – more – center- increase –Sun)

1. There is a(an) between Nile River and Mediterranean Sea.
2. If the mass of the moon increases than its real mass, its gravitational attraction will
3. Seasons phenomenon occurs due to the revolution of Earth around the
4. Gravity pulls objects toward the of Earth.
5. The gravity of Earth is than that of the moon because Earth has a greater mass than the moon.

7. (medium –pull – metal – Sun)

1. Force may push or the object to make it move.
2. Magnetism is a force that attracts objects.
3. locate(s) at the center of our solar system.
4. The Sun is sized star.

✱(9) Cross out the odd word:

1. Friction - The Sun - Gravity -Air resistance. (.....)
2. Water - Sand - Soil - Rocks. (.....)
3. Nitrogen - Sand - Oxygen - Carbon dioxide. (.....)
4. Ponds - Oceans - Rains - Glaciers. (.....)
5. River - Rainwater - Groundwater - Ocean. (.....)
6. Streams - Ponds - Rocks - Rivers. (.....)
7. Oxygen - Nitrogen - Water - Carbon dioxide (.....)
8. Rivers - Oceans - Seas - Lake Assal (.....)
9. Cresent - Full Moon - Earth – Gibbous (.....)
- 10.Stream - Ponds - Rocks – Rivers (.....)
- 11.First Crescent - New Moon - Full Moon – Earth (.....)

✱(10) Match from (A) to the suitable answer from (B):

1.

A	B
1. Geosphere	a. contains oxygen and nitrogen gases.
2. Atmosphere	b. contains rocks and sand.
3. Biosphere	c. can be used in making clothes.
4. Cotton	d. contains the Sun, moons, and planets.
5. Solar system	e. contains animals and plants.

1.

2.

3.

4.

5.

2.

A	B
1. Trees	a. can be used in making plastic.
2. Rivers	b. is the force that opposes the motion of a body
3. Estuary	c. contain fresh water only.
4. Oil products	d. contains mixture of fresh water and salt water.
5. Friction	e. can be used in making paper.

1.

2.

3.

4.

5.

3.

A	B
1. The Sun	a. contain salt water only.
2. Earth	b. is the center of the solar system.
3. Force	c. attract metal objects.
4. Magnets	d. is the planet that rotates around itself every 24 hours.
5. Seas	e. is a pull or a push that affects objects.

1.

2.

3.

4.

5.

4.

(A)	(B)
1. Oceans	a. is a medium-sized star.
2. Estuaries	b. contain salt water only.
3. Magnets	c. contain a mixture of fresh and salt water:
4. Sun	d. attract iron nails.

1.

2.

3.

4.

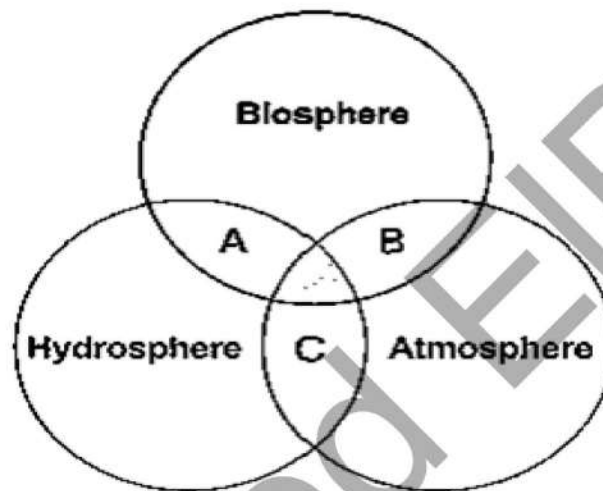
✳(11) **TRY TO ANSWER:**

1. Mention one example for each of the following and the use of it:

- (1) Biosphere:
- (2) Hydrosphere:
- (3) Atmosphere:
- (4) Geosphere:

2. The following model shows a diagram containing three interacted Earth's spheres.

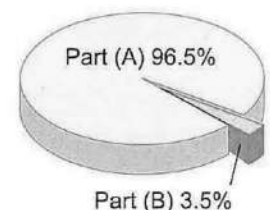
Read these sentences, then Put (✓) or (X) :



1. Area (B) can represent a student respire in oxygen gas. ()
2. Area (A) can represent small rocks in an ocean. ()
3. Area (C) can represent evaporation of sea water forming clouds and falling rains. ()

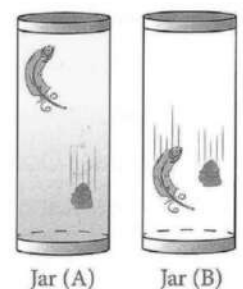
3. Look at the opposite graph, then complete the sentence below :

Part represents fresh water, while part represents salt water.



4. Imagine that jar (A) contains air, while jar (B) doesn't contain air.

1. The two bodies in jar (A) are affected by
(gravity only - air resistance and gravity)
2. The two bodies in jar (B) are affected by
(gravity only - air resistance and gravity)



5. Classify the following items into the system of Earth which belongs to in the table below:

(Soil - Lake Assal - Estuary - Mountain)

Hydrosphere	Geosphere
.....	
.....	

6. Complete the following from brackets:

1. is/ are part of the biosphere.

(Water - Clouds - Animals)

2. are formed when water is collected in low-lying areas.

(Seas - Lakes - Rivers)

3. The center of the solar system is the

(Sun - Earth - moon)

4. The force that causes skydivers to move downward is called

(gravity of Earth - gravity of the moon - gravity of the Sun)

5. To conserve water, we can the time of washing our hands.

(increase - decrease)

6. An area where the river meets the sea is a/an

(lake - estuary)

7. is a wide space that contains celestial bodies such as stars, galaxies.

(Constellation - Universe)

Model Answer

* (1) Write the scientific term:

1. Stars	8. Constellation	15. Moon	22. Moon
2. Moon	9. Gravity	16. Day and night	23. Wetland
3. Earth axis	10. Magnetism	17. Solar system	24. Atmosphere
4. Fresh water	11. Lake	18. Ocean	25. Parachute
5. Solar system	12. Tides	19. Estuary	26. Fresh water
6. Galaxy	13. Weathering	20. Salt water	
7. Force	14. Friction force	21. Underground water	

* (2) Choose the right answer :

1. C	10. A	19. B	28. B	37. C	46. B
2. B	11. B	20. C	29. B	38. A	47. C
3. B	12. A	21. D	30. B	39. A	48. A
4. C	13. C	22. C	31. A	40. A	49. C
5. A	14. B	23. C	32. B	41. B	50. A
6. A	15. C	24. A	33. A	42. C	51. B
7. B	16. B	25. A	34. C	43. C	52. B
8. D	17. A	26. A	35. D	44. A	53. B
9. C	18. A	27. B	36. A	45. B	

* (3) Complete the following:

1. Mass - distance	8. Gravity	15. Friction	22. Hydrosphere – geosphere
2. Wetland	9. Salt water	16. Earth	23. Fresh – salt
3. Sand - charcoal	10. Water cycle	17. Universe	24. Day and night
4. Larger	11. Mass	18. Friction	25. Sun
5. Glacier	12. Fresh water	19. Decrease	
6. 96.5%	13. 24	20. Pull	
7. Geosphere	14. Solar system	21. Magnetism	

* (4) Correct the underline:

1. Gases	5. Geosphere	8. Pulling	12. Its axis	16. Moon
2. Star	6. Sun	9. Oil products	13. Sun	17. Fresh
3. Atmosphere	7. Day and night	10. Estuary	14. Clouds	
4. Ice		11. Atmosphere	15. Abyssal	

* (5) Put (√) or (X) :

1. (√)	9. (√)	17. (√)	25. (√)	33. (X)	41. (X)	49. (X)
2. (√)	10. (X)	18. (X)	26. (√)	34. (X)	42. (√)	50. (√)
3. (√)	11. (√)	19. (√)	27. (X)	35. (X)	43. (X)	51. (X)
4. (√)	12. (√)	20. (X)	28. (X)	36. (√)	44. (√)	
5. (√)	13. (X)	21. (X)	29. (X)	37. (X)	45. (√)	
6. (X)	14. (√)	22. (X)	30. (X)	38. (√)	46. (X)	
7. (X)	15. (X)	23. (√)	31. (√)	39. (√)	47. (√)	
8. (X)	16. (√)	24. (√)	32. (√)	40. (√)	48. (X)	

* (6) Give a reason for:

- Because the Sun is the closest star to the Earth.
- Because humans cannot drink salt water, but they drink fresh water only.
- To conserve fresh water.
- Because about 71% of Earth is covered by water.
- Due to the rotation of Earth on its axis.
- Because stars produce light.
- Because the moon reflects the light of the Sun.
- Because there is no gravity in the space.
- Because the abyssal zones don't receive sunlight.
- Due to the revolution of Earth around the Sun.
- Because the moon reflects the sunlight.
- Because the mass of Earth is greater than the mass of the moon.
- Because fresh water is limited on Earth.
- Because plants take in carbon dioxide gas from air during photosynthesis process.
- Because both Earth and the moon revolve together around the Sun.

***(7) What happens when ... ?**

1. They will not be able to make their food by photosynthesis process.
2. The phenomenon of day and night will not happen.
3. Astronauts cannot see distant objects in the universe in more details.
4. A lake is formed.
5. Phenomenon of day and night will not happen.
6. An estuary is formed.
7. The level of water in this river will increase causing flooding.
8. They have to adapt to the changes that happen, or they will die.
9. Day and night phenomenon happens.
10. The speed of skydiver decreases gradually due to the air resistance.
11. The amount of fresh water in the Earth will decrease.
12. This half has day.
13. It leads to death of living organisms and extinction of some species live in fresh water.
14. All objects on its surface will float off into space.

***(8) Complete the following sentences using the words below:**

1	1. Biosphere 2. Gravity 3. Constellation 4. lunar month 5. Pulling	2	1. Lithosphere 2. air resistance 3. electricity 4. atmosphere 5. friction
3	1. fresh 2. an estuary 3. solar system 4. harmful 5. friction	4	1. biosphere 2. rivers 3. Earth 4. east 5. gravity
5	1. wetland 2. galaxy 3. geosphere 4. force	6	1. estuary 2. increase 3. Sun 4. Center 5. More
7	1. Pull 2. Metal 3. Sun 4. Medium		

***(9) Cross out the odd word:**

- | | | | |
|------------|-----------|-----------|-----------|
| 1. The Sun | 4. Oceans | 7. Water | 10. Rocks |
| 2. Water | 5. Ocean | 8. Rivers | 11. Earth |
| 3. Sand | 6. Rocks | 9. Earth | |

***(10) Match from (A) to the suitable answer from (B):**

- | | | | | | |
|---|------|------|------|------|------|
| 1 | 1. b | 2. a | 3. e | 4. c | 5. d |
| 2 | 1. e | 2. c | 3. d | 4. a | 5. b |
| 3 | 1. b | 2. d | 3. e | 4. c | 5. a |
| 4 | 1. b | 2. c | 3. d | 4. a | |

***(11) TRY TO ANSWER:**

1	1. Animal 2. Ocean 3. Air 4. Rocks	2	1. (√) 2. (X) 3. (√)
3	B – A	4	1. air resistance and gravity 2. gravity only
5	Hydrosphere: lake assal – estuary Geosphere: soil – mountain	6	1. Animal 2. Lakes 3. Sun 4. Gravity of earth 5. Decrease 6. Estuary 7. Universe

كيفية طباعة صفحات معينة من ملف معين مثلا ازاي نطبع الصفحات من صفحة 4 الى صفحة 9

